



Biology

Time Remaining: 45/45 (Minutes)

Q.1

Test 3 Bioenergetics B

Biology Unit Wise

Number of steps involved in release of CO_2 during Krebs cycle are:

- (a) 1
(c) 6

- (b) 2
(d) 12

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

- ☐ A ☐ B ☐ C ☐ D

Next



Time Remaining: 44/45 (Minutes)

Q.2

Test 3 Bioenergetics B

Biology Unit Wise

Number of carbon atoms present in citric acid, oxaloacetic acid and pyruvic acid are respectively:

(a) 6, 3 & 3

(b) 6, 4 & 3

(c) 5, 4 & 3

(d) 6, 4 & 2

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:



A



B



C



D

Next

Back



Time Remaining: 44/45 (Minutes)

Q.3

Test 3 Bioenergetics B

Biology Unit Wise

Aerobic respiration of one glucose produces:

- (a) $12 \text{ NADH} + 2\text{FADH}_2 + 38 \text{ ATP}$
- (b) $12 \text{ NADH} + 30 \text{ ATP} + \text{H}_2\text{O}$
- (c) $8 \text{ NADH} + 2\text{FADH}_2 + 2\text{ATP}$
- (d) $10 \text{ NADH} + 2 \text{FADH}_2 + 2 \text{ ATP} + 2 \text{ GTP}$

STAR INSTITUTE LAHORE

Click Here if Image Doesn't Load

Correct Answer:

☒ A ☐ B ☐ C ☐ D

Next

Back

Biology

Time Remaining: 44/45 (Minutes)

Q.4

Test 3 Bioenergetics B

Biology Unit Wise

Which of the following is correct regarding citric acid cycle?

- (a) The cycle consumes acetate and water
- (b) The cycle reduces NAD^+ to NADH
- (c) The cycle produces carbon dioxide as a waste byproduct
- (d) All the above

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

☒ A ☐ B ☐ C ☐ D

Next

Back



Time Remaining: 44/45 (Minutes)

Q.5

Test 3 Bioenergetics B

Biology Unit Wise

In eukaryotic cells, the citric acid cycle occurs:

- (a) In the matrix of the mitochondrion
- (b) In F1 particles
- (c) On the inner surface of inner mitochondrial membrane
- (d) In the inter-membranous space of the mitochondrion

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

☒ A ☐ B ☐ C ☐ D

Next

Back

Biology

Time Remaining: 44/45 (Minutes)

Q.6

Test 3 Bioenergetics B

Biology Unit Wise

For each acetyl-CoA entering the cycle, the number of carbon dioxide molecules formed is:

- (a) One
(c) Four

- (b) Two
(d) Zero

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

- ☒ A ☐ B ☐ C ☐ D

Next

Back



Time Remaining: 43/45 (Minutes)

Q.7

Test 3 Bioenergetics B

Biology Unit Wise

How many times does the Krebs cycle turn per glucose molecule?

- (a) Once (b) Twice
(c) Three times (d) Four times

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

☒ A ☐ B ☐ C ☐ D

Next

Back



Time Remaining: 43/45 (Minutes)

Q.8

Test 3 Bioenergetics B

Biology Unit Wise

Number of ATPs obtained from 1 GTP during one Krebs's cycle is:

(a) 1

(b) 2

(c) 3

(d) 6

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:



A



B



C



D

Next

Back

Biology

Time Remaining: 43/45 (Minutes)

Q.9

Test 3 Bioenergetics B

Biology Unit Wise

Number of oxygen molecules required for glycolytic breakdown of one glucose molecule is:

- (a) Three (b) Zero
(c) Thirty eight (d) Six

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

- ☒ A ☐ B ☐ C ☐ D

Next

Back



Time Remaining: 43/45 (Minutes)

Q.10

Test 3 Bioenergetics B

Biology Unit Wise

During respiration, terminal oxidation means:

- (a) Electron transport
- (b) Synthesis of ATP
- (c) Formation of water
- (d) Dehydrogenation of reaction

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

☒ A ☐ B ☐ C ☐ D

Next

Back



Time Remaining: 43/45 (Minutes)

Q.11

Test 3 Bioenergetics B

Biology Unit Wise

In ETC, cytochromes are arranged in series of:

- (a) Cytochrome a → Cytochrome a₃ → Cytochrome b → Cytochrome c
- (b) Cytochrome b → Cytochrome a₃ → Cytochrome a → Cytochrome c
- (c) Cytochrome b → Cytochrome c → Cytochrome a → Cytochrome a₃
- (d) Cytochrome b → Cytochrome a₃ → Cytochrome a → Cytochrome c

STAR INSTITUTE LAHORE

Click Here if Image Doesn't Load

Correct Answer:

☒ A ☐ B ☐ C ☐ D

Next

Back



Time Remaining: 43/45 (Minutes)

Q.12

Test 3 Bioenergetics B

Biology Unit Wise

In oxidative phosphorylation, one molecule of reduced FAD produces, how many ATP?

- (a) Zero (b) Two
(c) Three (d) Four

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

☒ A ☐ B ☐ C ☐ D

Next

Back

Biology

Time Remaining: 43/45 (Minutes)

Q.13

Test 3 Bioenergetics B

Biology Unit Wise

End product of citric acid/Krebs cycle is:

- (a) Citric acid (b) Lactic acid
(c) Pyruvic acid (d) CO_2

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

- ☐ A ☐ B ☐ C ☐ D

Next

Back

Biology

Time Remaining: 42/45 (Minutes)

Q.14

Test 3 Bioenergetics B

Biology Unit Wise

Fructose-6-phosphate is changed to fructose-1,6-bisphosphate by:

- (a) Phosphoglycerate (b) Phosphatase
(c) Phosphofructokinase (d) Enolase

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

- ☒ A ☐ B ☐ C ☐ D

Next

Back



Time Remaining: 42/45 (Minutes)

Q.15

Test 3 Bioenergetics B

Biology Unit Wise

How many ATP will be produced during the production of one molecule of acetyl-CoA from one molecule of pyruvic acid?

- (a) 3 ATP
(c) 8 ATP

- (b) 5 ATP
(d) 38 ATP

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

- ☒ A ☐ B ☐ C ☐ D

Next

Back



Time Remaining: 42/45 (Minutes)

Q.16

Test 3 Bioenergetics B

Biology Unit Wise

Largest amount of phosphate bond energy is produced in the process of respiration during:

- (a) Glycolysis
- (b) Krebs cycle
- (c) Anaerobic respiration
- (d) None of the above

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

☒ A ☐ B ☐ C ☐ D

Next

Back



Time Remaining: 42/45 (Minutes)

Q.17

Test 3 Bioenergetics B

Biology Unit Wise

Number of ATP molecules which can be built on complete oxidation of pyruvic acid is:

(a) 6

(b) 2

(c) 15

(d) 30

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:



A



B



C



D

Next

Back

Biology

Time Remaining: 42/45 (Minutes)

Q.18

Test 3 Bioenergetics B

Biology Unit Wise

Number of carbon atoms available in acetyl-CoA is:

(a) 6

(c) 3

(b) 4

(d) 2

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:



A



B



C



D

Next

Back



Time Remaining: 42/45 (Minutes)

Q.19

Test 3 Bioenergetics B

Biology Unit Wise

The energy yield as a result of total oxidation of one molecule of glucose during cellular respiration is sufficient to convert:

- (a) 30 molecules of ADP to 30 molecules of ATP
- (b) 32 molecules of ADP to 32 molecules of ATP
- (c) 36 molecules of ADP to 36 molecules of ATP
- (d) 38 molecules of ADP to 38 molecules of ATP

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

☒ A ☐ B ☐ C ☐ D

Next

Back



star-portals.com/view/s

16

**Time Remaining: 42/45 (Minutes)****Q.20****Test 3 Bioenergetics B****Biology Unit Wise****As compared to anaerobic respiration the energy gained during aerobic respiration is _____ more:**

(a) 6 times

(b) 12 times

(c) 18 times

(d) 36 times

STAR INSTITUTE LAHORE[Click Here if Image Doesn't Load](#)**Correct Answer:****A****B****C****D****Next****Back**



Time Remaining: 42/45 (Minutes)

Q.21

Test 3 Bioenergetics B

Biology Unit Wise

Oxidation of pyruvate to CO_2 and H_2O occurs through:

- (a) Citric acid cycle (b) Tricarboxylic cycle
(c) Krebs cycle (d) All the above

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

☒ A ☐ B ☐ C ☐ D

Next

Back



Time Remaining: 41/45 (Minutes)

Q.22

Test 3 Bioenergetics B

Biology Unit Wise

The terminal cytochrome in respiratory chain is:

- (a) Cytochrome b
(c) Cytochrome a

- (b) Cytochrome a₃
(d) Cytochrome c

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

- ☒ A ☐ B ☐ C ☐ D

Next

Back

Biology

Time Remaining: 41/45 (Minutes)**Q.23****Test 3 Bioenergetics B****Biology Unit Wise**

The net gain of energy from one gram mole of glucose during aerobic respiration is:

(a) 2 ATP

(b) 4 ATP

(c) 36 ATP

(d) 38 ATP

STAR INSTITUTE LAHORE[Click Here if Image Doesn't Load](#)**Correct Answer:****A****B****C****D****Next****Back**

Biology

Time Remaining: 41/45 (Minutes)

Q.24

Test 3 Bioenergetics B

Biology Unit Wise

The first decarboxylation of aerobic respiration occurs during:

- (a) Glycolysis
- (b) Pyruvic acid oxidation
- (c) Krebs cycle
- (d) Respiratory chain

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

☒ A ☐ B ☐ C ☐ D

Next

Back



Time Remaining: 41/45 (Minutes)

Q.25

Test 3 Bioenergetics B

Biology Unit Wise

Total number of decarboxylation during aerobic respiration of one glucose:

(a) 2

(c) 6

(b) 4

(d) 8

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:



A



B



C



D

Next

Back



Time Remaining: 41/45 (Minutes)

Q.26

Test 3 Bioenergetics B

Biology Unit Wise

Water molecules released during pyruvic acid oxidations is:

(a) 0

(b) 1

(c) 2

(d) 4

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:



A



B



C



D

Next

Back



Time Remaining: 41/45 (Minutes)

Q.27

Test 3 Bioenergetics B

Biology Unit Wise

First NADH of aerobic respiration is produced during:

- (a) Glycolysis
- (b) Pyruvic acid oxidation
- (c) Krebs cycle
- (d) Respiratory chain

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

☒ A ☐ B ☐ C ☐ D

Next

Back



Time Remaining: 41/45 (Minutes)

Q.28

Test 3 Bioenergetics B

Biology Unit Wise

Which of the following enzyme catalyzes the first step of glycolysis?

- (a) Hexokinase
- (b) Pyruvate kinase
- (c) Isomerase
- (d) Phosphofructokinase

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

☒ A ☐ B ☐ C ☐ D

Next

Back



Time Remaining: 41/45 (Minutes)

Q.29

Test 3 Bioenergetics B

Biology Unit Wise

The general term used for the anaerobic degradation of glucose to obtain energy is

- (a) Anabolism (b) Oxidation
(c) Fermentation (d) Metabolism

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

- ☒ A ☐ B ☐ C ☐ D

Next

Back



Time Remaining: 40/45 (Minutes)

Q.30

Test 3 Bioenergetics B

Biology Unit Wise

Cleavage of fructose-1,6-biophosphate yields

- (a) Two aldoses (b) Two ketoses
(c) An aldose & a ketose (d) Only a ketose

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

☒ A ☐ B ☐ C ☐ D

Next

Back

Biology

Time Remaining: 40/45 (Minutes)

Q.31

Test 3 Bioenergetics B

Biology Unit Wise

Dihydroxyacetone phosphate is rapidly and reversibly converted to

- (a) Glyceraldehyde 3-phosphate
- (b) 1,3-bis-phosphoglycerate
- (c) Fructose-1,6-bisphosphate
- (d) Fructose-6-phosphate

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

☒ A ☐ B ☐ C ☐ D

Next

Back

Biology

Time Remaining: 40/45 (Minutes)

Q.32

Test 3 Bioenergetics B

Biology Unit Wise

The substrate used in the last step of glycolysis is

- (a) Glyceraldehyde 3-phosphate
- (b) Pyruvate
- (c) Phosphoenolpyruvate
- (d) 1,3-bisphosphoglycerate

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

☒ A ☐ B ☐ C ☐ D

Next

Back

Biology

Time Remaining: 40/45 (Minutes)

Q.33

Test 3 Bioenergetics B

Biology Unit Wise

Glycolysis converts

- (a) Glucose into pyruvate
- (b) Glucose into phosphoenolpyruvate
- (c) Fructose into pyruvate
- (d) Fructose into phosphoenolpyruvate

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

☒ A ☐ B ☐ C ☐ D

Next

Back

Biology

Time Remaining: 40/45 (Minutes)

Q.34

Test 3 Bioenergetics B

Biology Unit Wise

The product formed in the first substrate level phosphorylation in glycolysis is:

- (a) Pyruvate
- (b) 3-phosphoglycerate
- (c) 1,3-bisphosphoglycerate
- (d) 2-phosphoglycerate

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

☒ A ☐ B ☐ C ☐ D

Next

Back



Time Remaining: 39/45 (Minutes)

Q.35

Test 3 Bioenergetics B

Biology Unit Wise

The enzymes that take part in Krebs cycle are part of:

- (a) Mitochondria
- (b) Inner mitochondrial membrane
- (c) Mitochondrial matrix
- (d) Cytoplasm

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

☒ A ☐ B ☐ C ☐ D

Next

Back



Time Remaining: 39/45 (Minutes)

Q.36

Test 3 Bioenergetics B

Biology Unit Wise

In glycolysis, phosphofructokinase (PFK) is inhibited by:

- (a) NADH
- (b) ATP
- (c) Fructose-1,6-bisphosphate
- (d) Fructose-6-phosphate

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

☒ A ☐ B ☐ C ☐ D

Next

Back



Time Remaining: 39/45 (Minutes)

Q.37

Test 3 Bioenergetics B

Biology Unit Wise

The pyruvate decarboxylase is inhibited by:

- (a) NADH
(c) ATP

- (b) CO₂
(d) Acetyl-CoA

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

- ☒ A ☐ B ☐ C ☐ D

Next

Back

Biology

Time Remaining: 39/45 (Minutes)

Q.38

Test 3 Bioenergetics B

Biology Unit Wise

The products of glycolysis is/are:

- (a) Pyruvate
(c) ATP

- (b) NADH
(d) All the above

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

- ☒ A ☐ B ☐ C ☐ D

Next

Back



Time Remaining: 39/45 (Minutes)

Q.39

Test 3 Bioenergetics B

Biology Unit Wise

During respirator chain, NADH is oxidized by:

- (a) Cytochrome b (b) Cytochrome a
(c) Molecular O₂ (d) Coenzyme Q

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

- ☒ A ☐ B ☐ C ☐ D

Next

Back

Biology

Time Remaining: 39/45 (Minutes)

Q.40

Test 3 Bioenergetics B

Biology Unit Wise

Which of the following is wrong with respect to the Krebs cycle?

- (a) Acetyl-CoA combines with oxaloacetate to form citrate
- (b) NAD^+ is reduced to form NADH
- (c) FADH_2 accepts two electrons in order to form FAD
- (d) All of the above are correct

STAR INSTITUTE LAHORE

[Click Here if Image Doesn't Load](#)

Correct Answer:

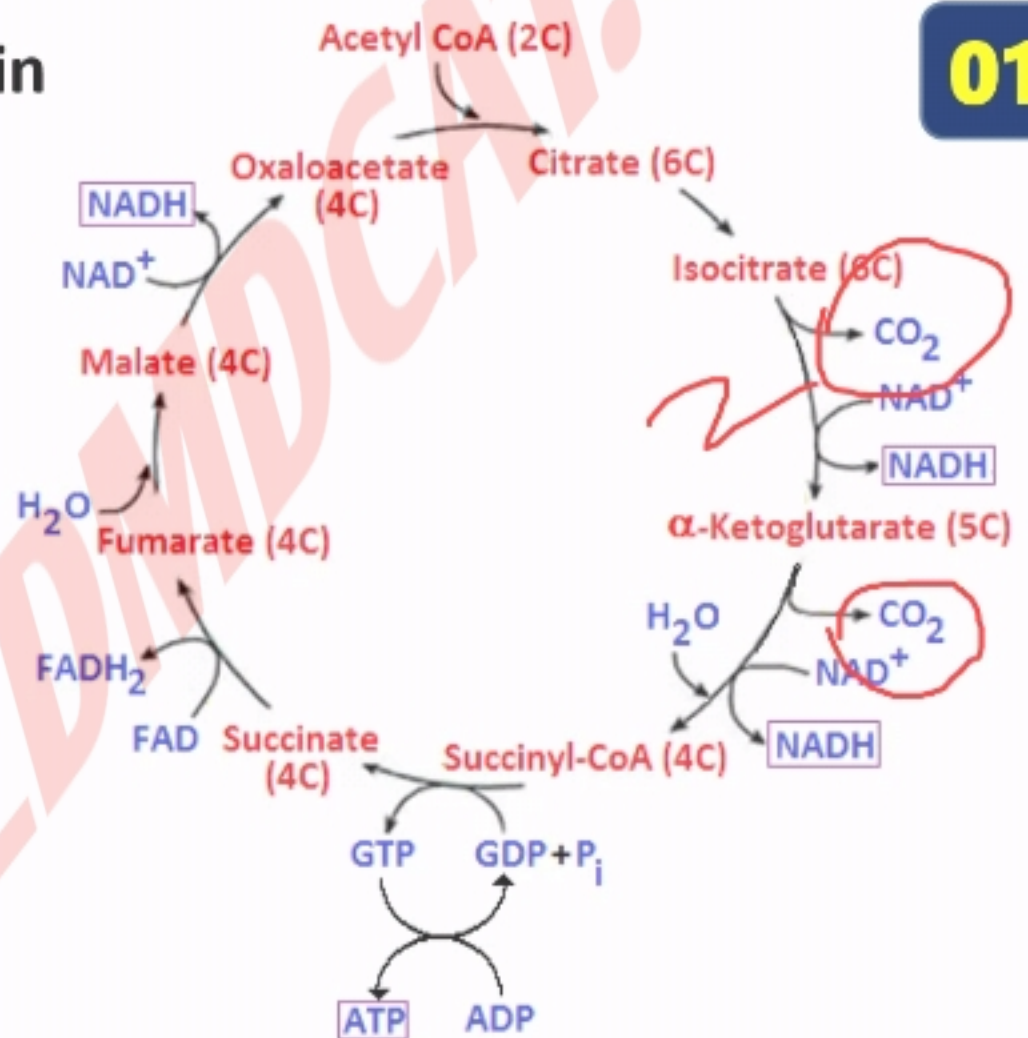
☐ A ☐ B ☐ C ☐ D

Submit Quiz

Back

Number of steps involved in release of CO_2 during Krebs cycle are:

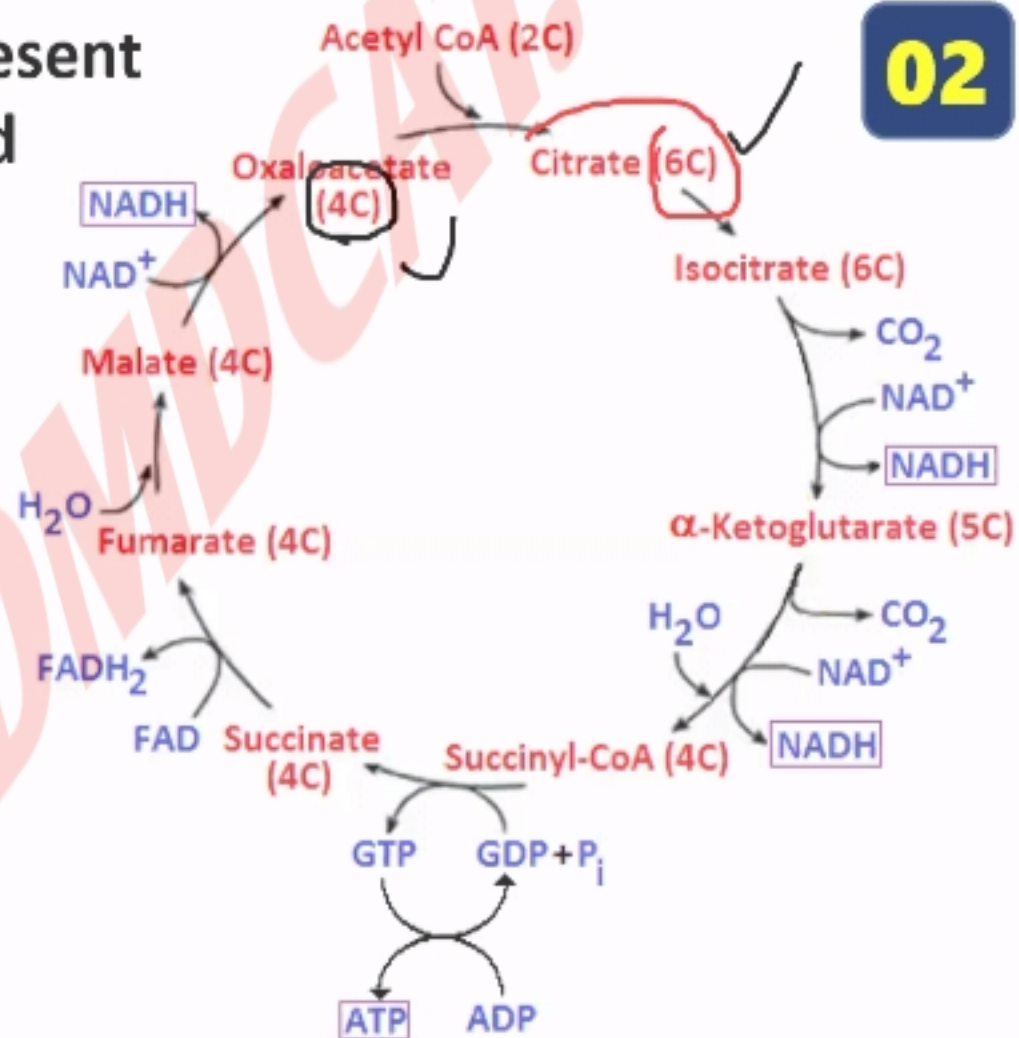
- (a) 1
- (b) 2**
- (c) 6
- (d) 12



01

Number of carbon atoms present in citric acid, oxaloacetic acid and pyruvic acid are respectively:

- (a) 6, 3 & 3
(b) 6, 4 & 3
(c) 5, 4 & 3
(d) 6, 4 & 2



Aerobic respiration of one glucose produces:

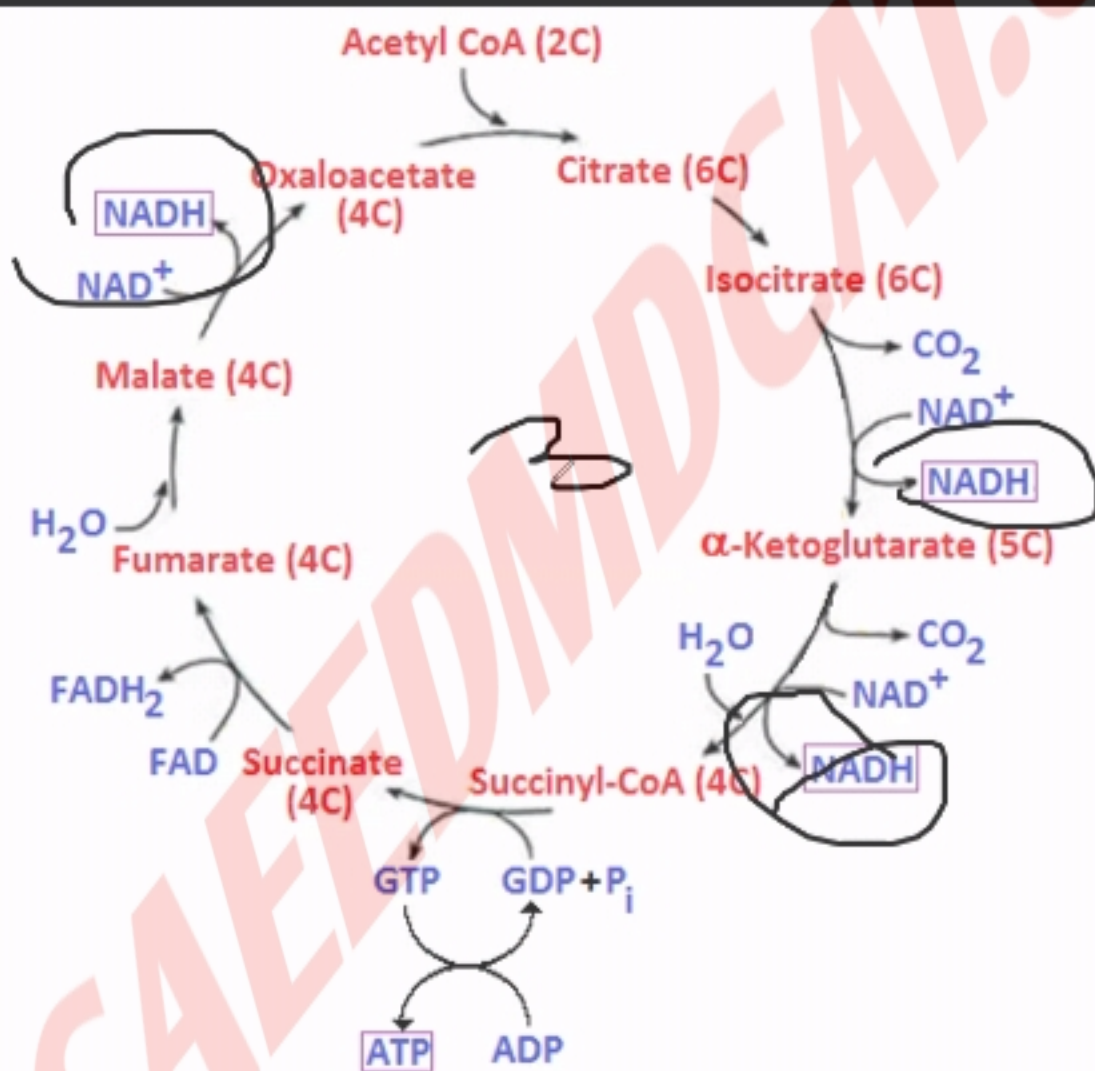
03

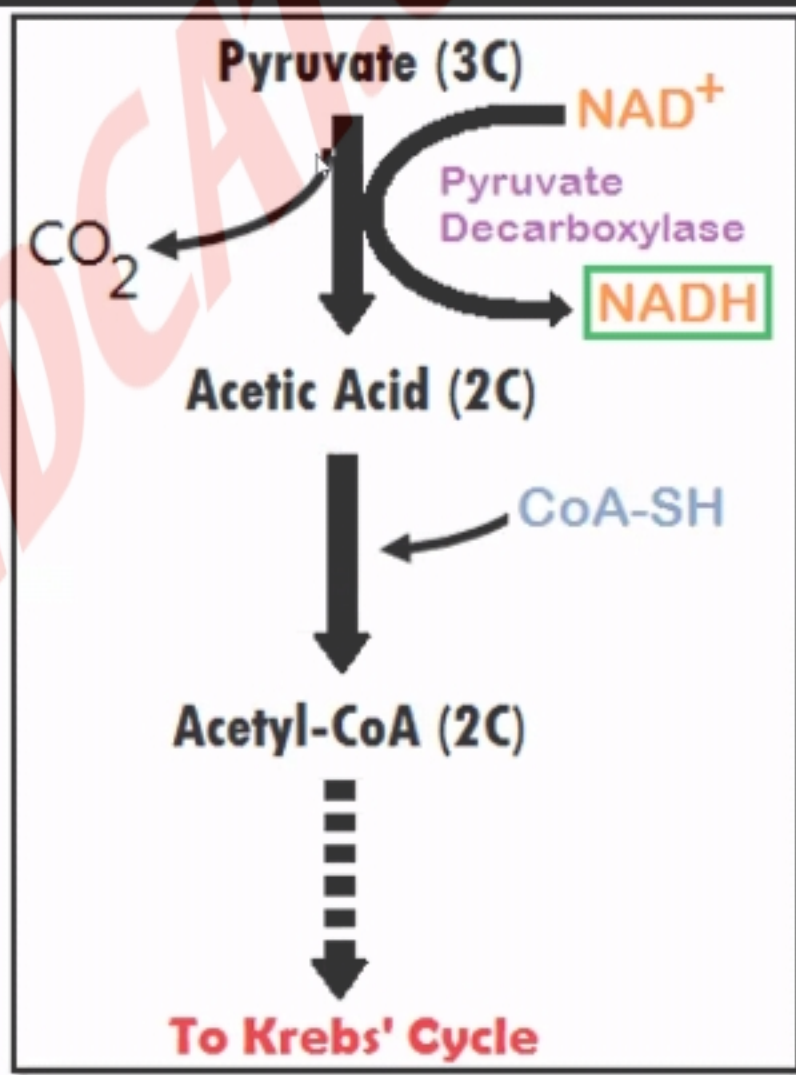
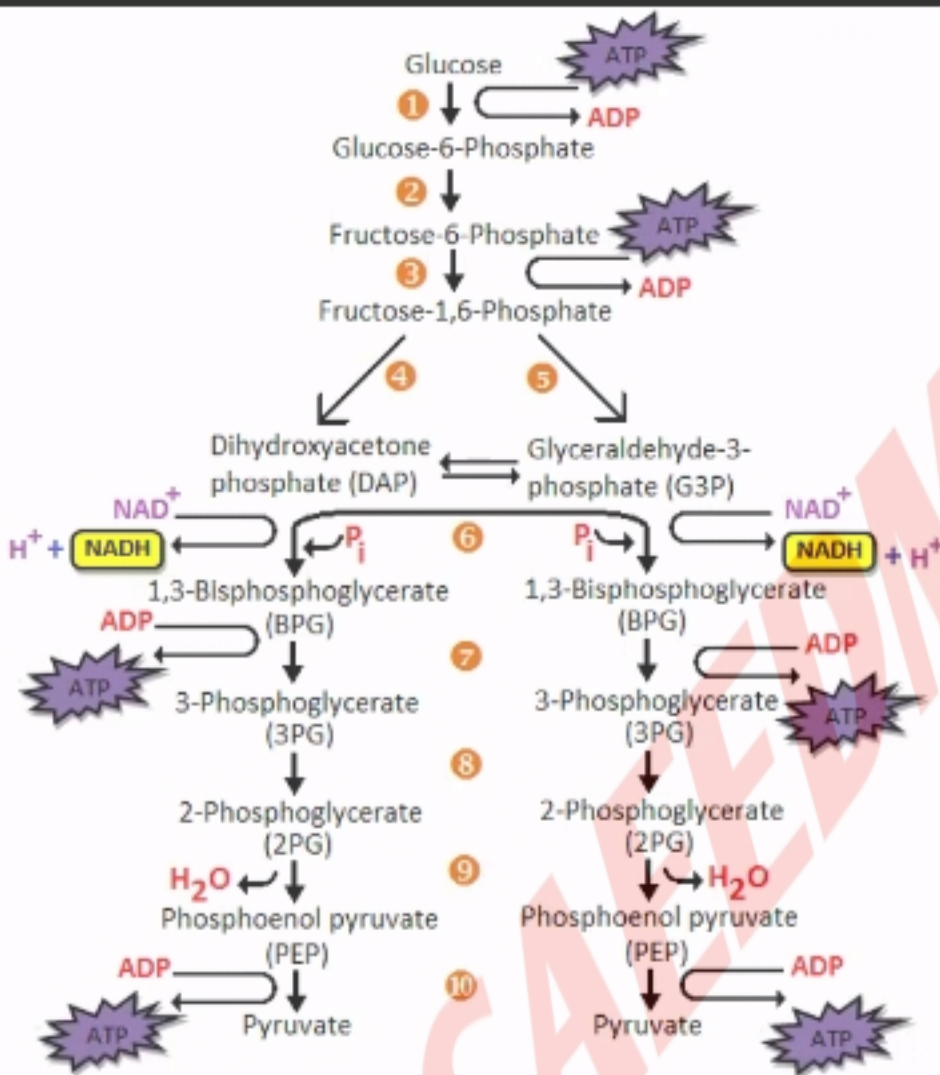
(a) $12 \text{ NADH} + 2\text{FADH}_2 + 38 \text{ ATP}$

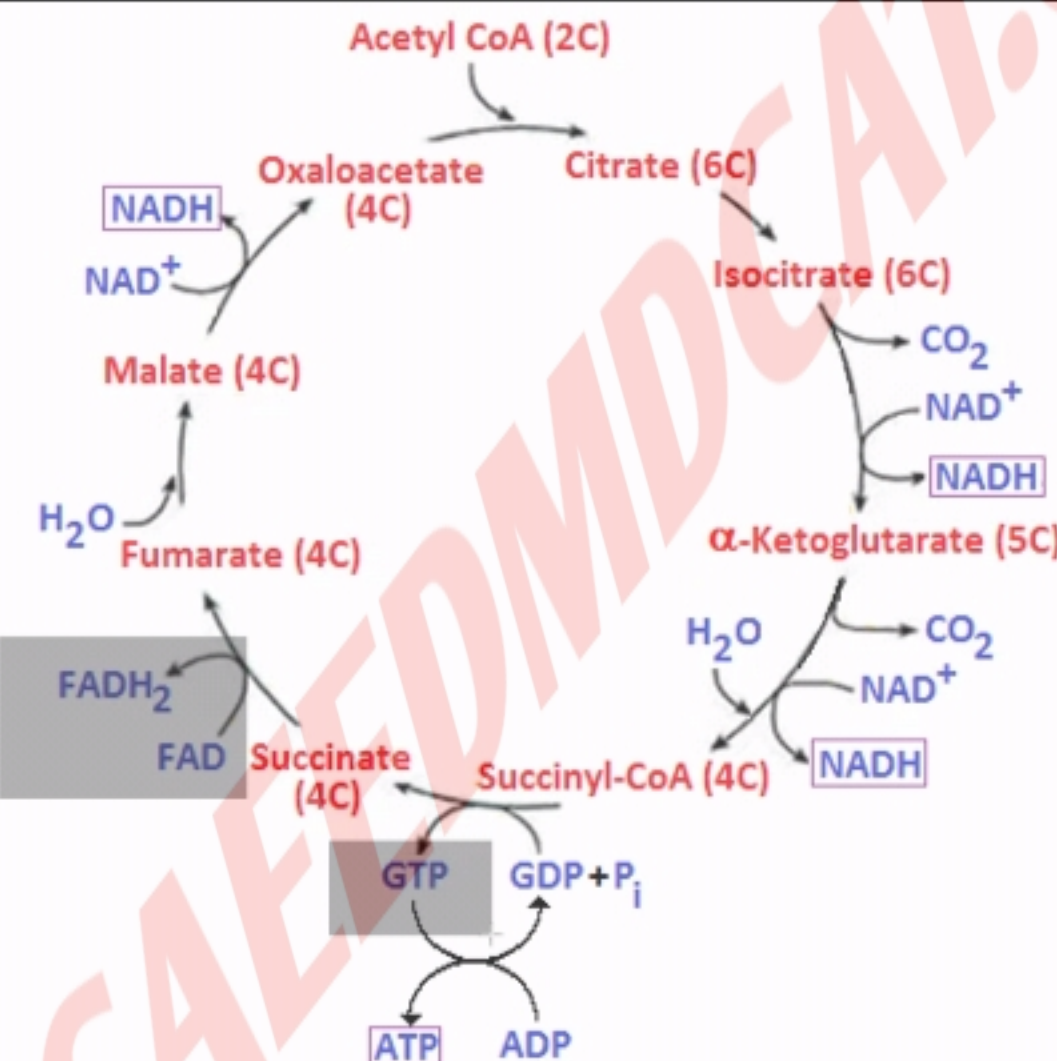
(b) $12 \text{ NADH} + 30 \text{ ATP} + \text{H}_2\text{O}$

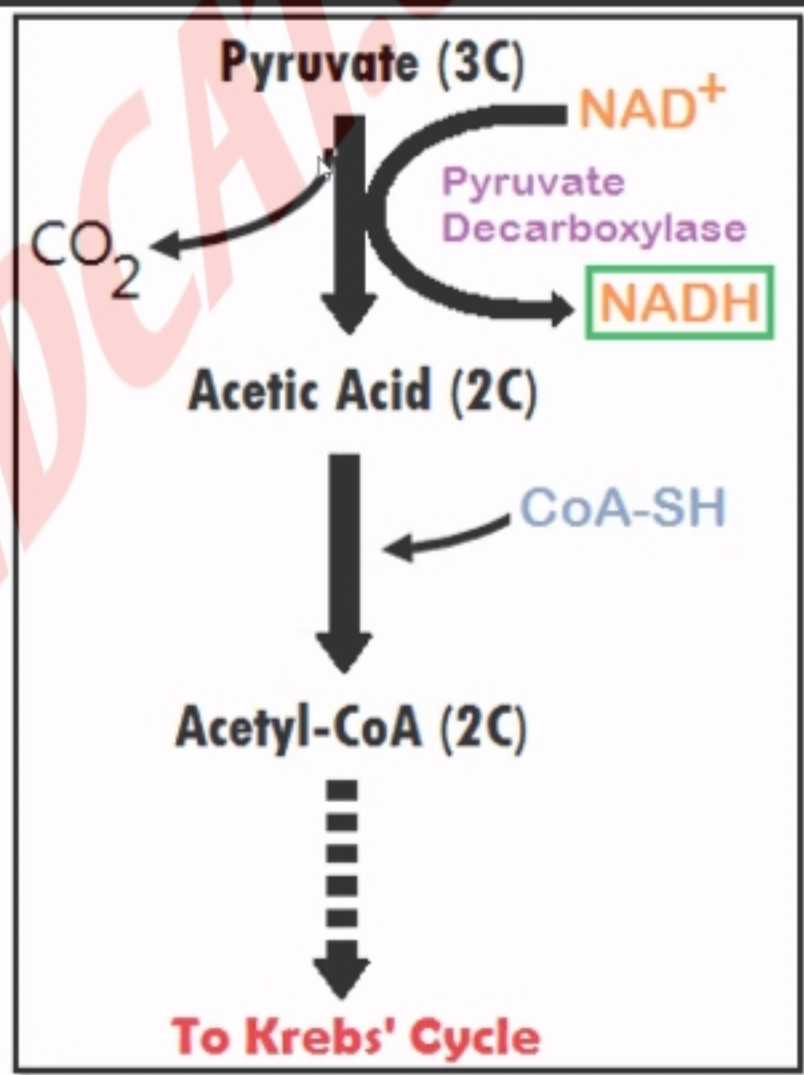
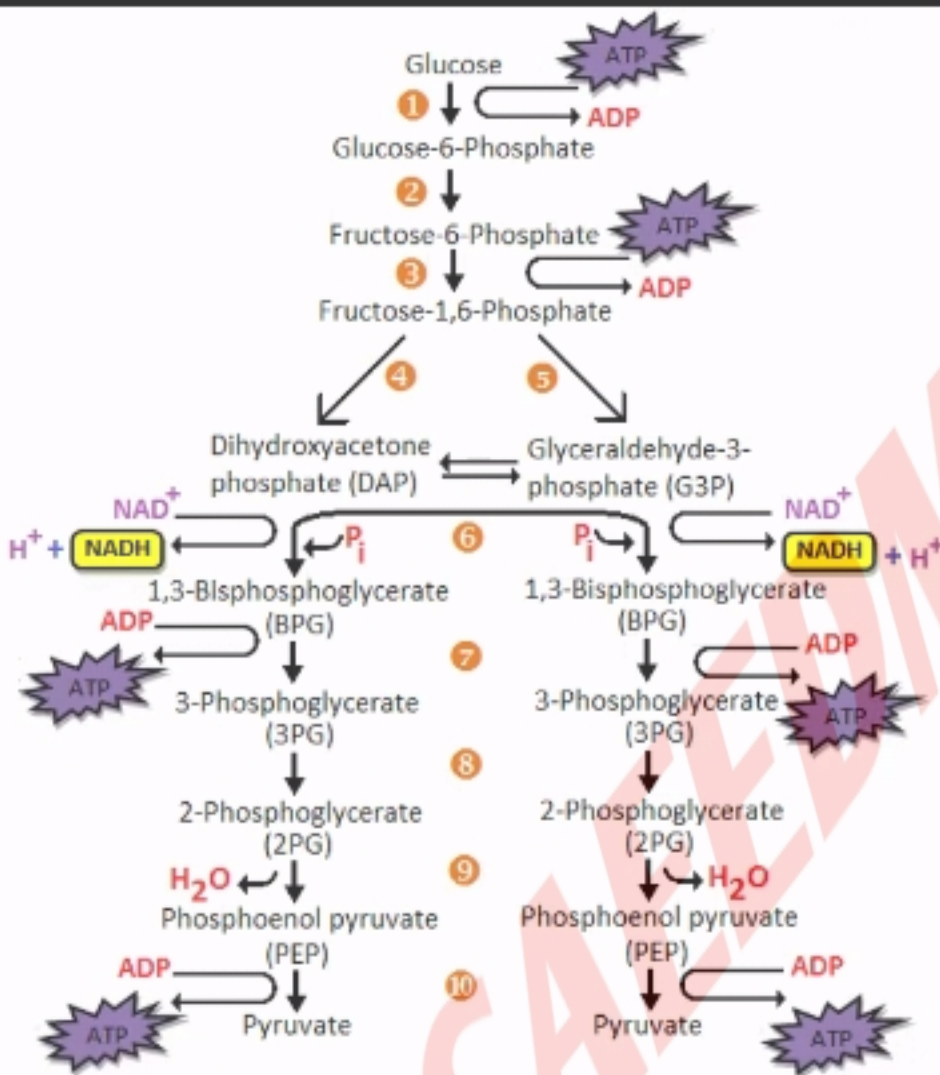
(c) $8 \text{ NADH} + 2\text{FADH}_2 + 2\text{ATP}$

(d) $10 \text{ NADH} + 2 \text{ FADH}_2 + 2 \text{ ATP} + 2 \text{ GTP}$





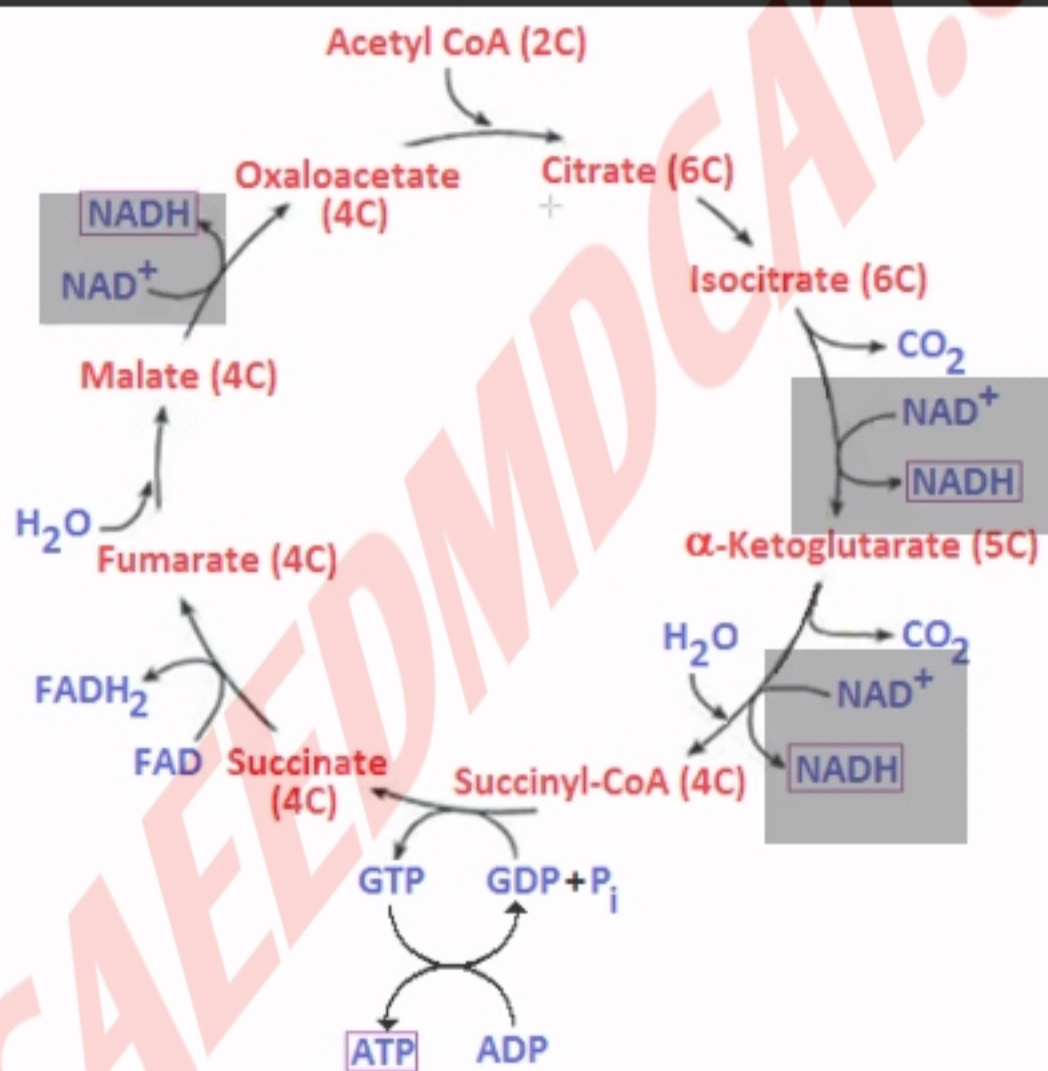


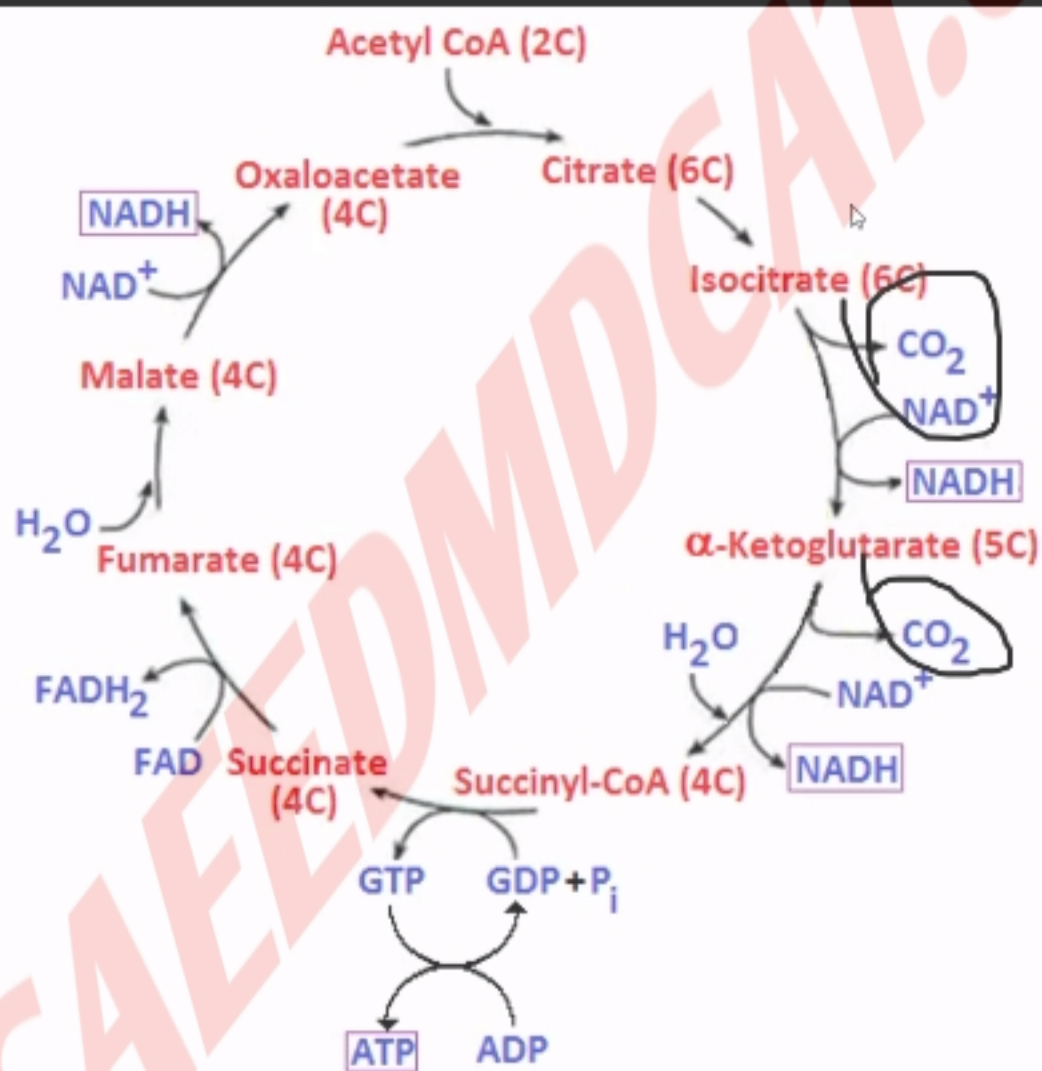


Which of the following is correct regarding citric acid cycle?

04

- (a) The cycle consumes acetate and water
- (b) The cycle reduces NAD^+ to NADH
- (c) The cycle produces carbon dioxide as a waste byproduct
- (d) All the above**





In eukaryotic cells, the citric acid cycle occurs:

05

(a) In the matrix of the mitochondrion

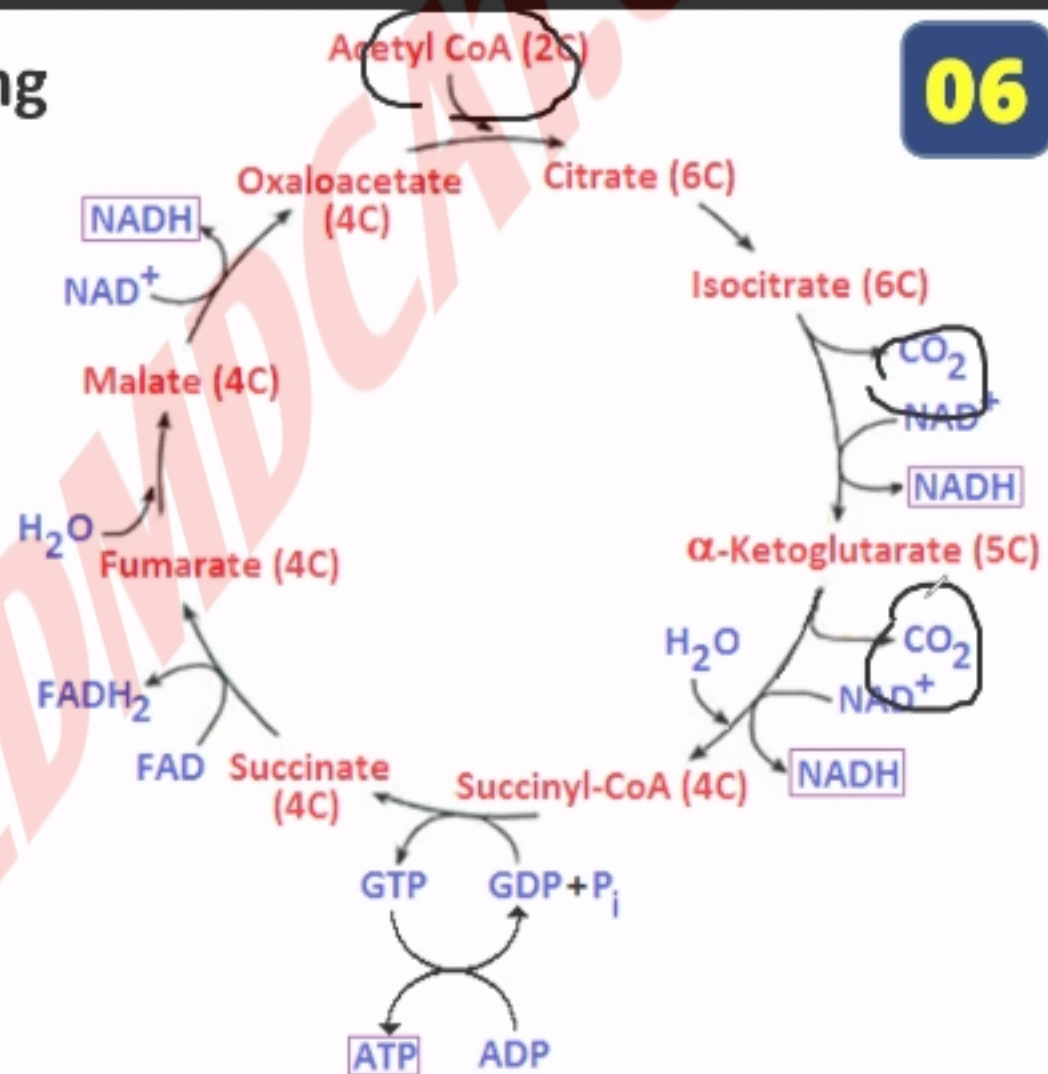
(b) In F_1 particles

(c) On the inner surface of inner mitochondrial membrane

(d) In the inter-membranous space of the mitochondrion

For each acetyl-CoA entering the cycle, the number of carbon dioxide molecules formed is:

- (a) One
- (b) Two**
- (c) Four
- (d) Zero



06

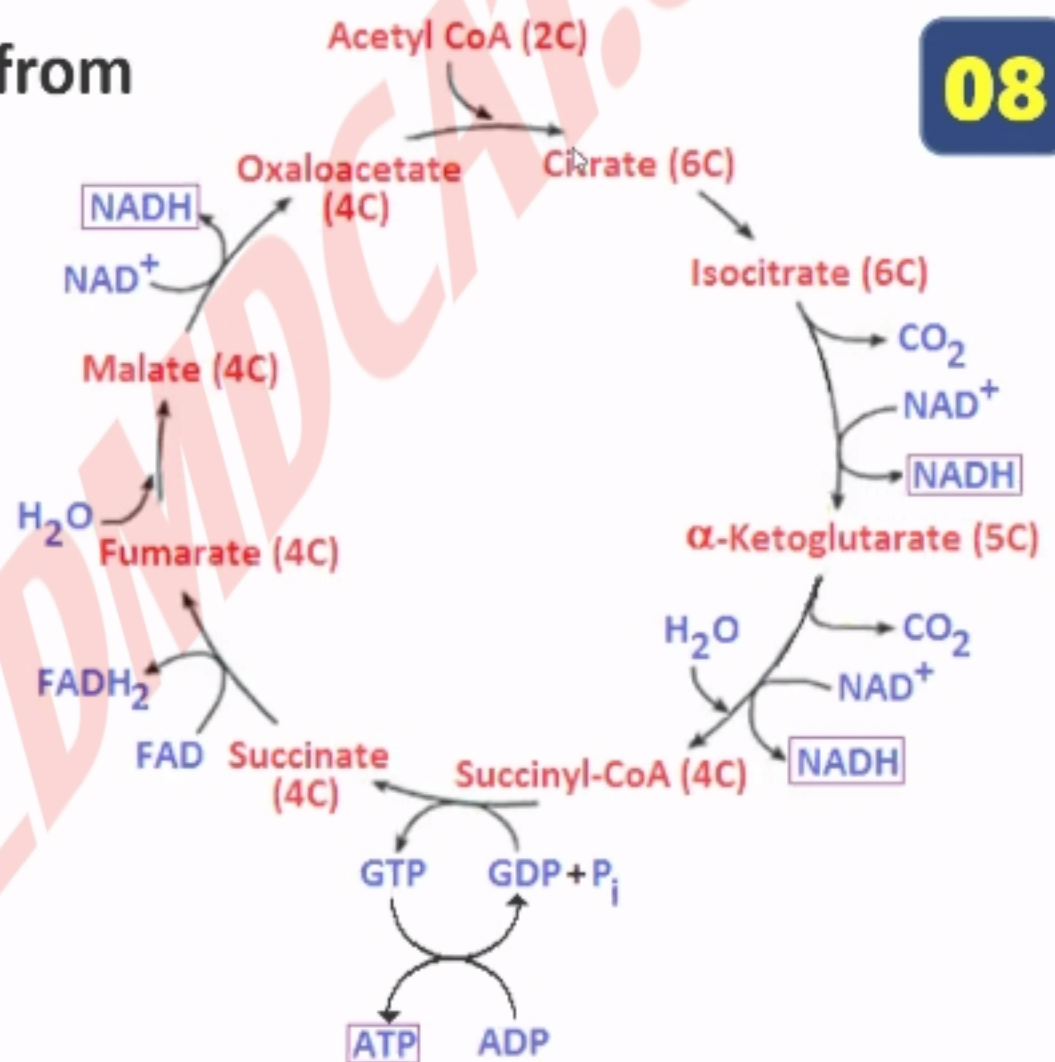
How many times does the Krebs cycle turn per glucose molecule?

07

- (a) Once
- (b) Twice**
- (c) Three times
- (d) Four times

Number of ATPs obtained from 1 GTP during one Kreb's cycle is:

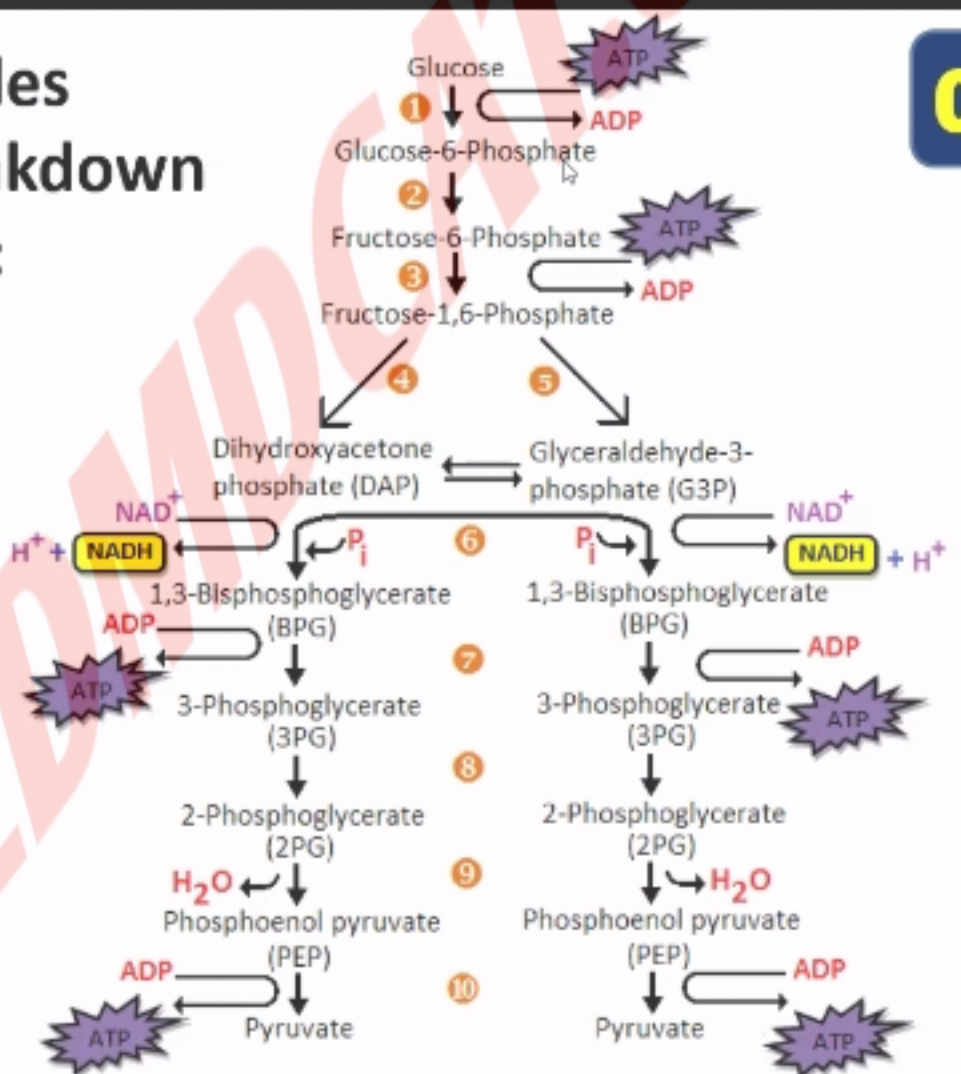
- (a) 1
- (b) 2
- (c) 3
- (d) 6



08

Number of oxygen molecules required for glycolytic breakdown of one glucose molecule is:

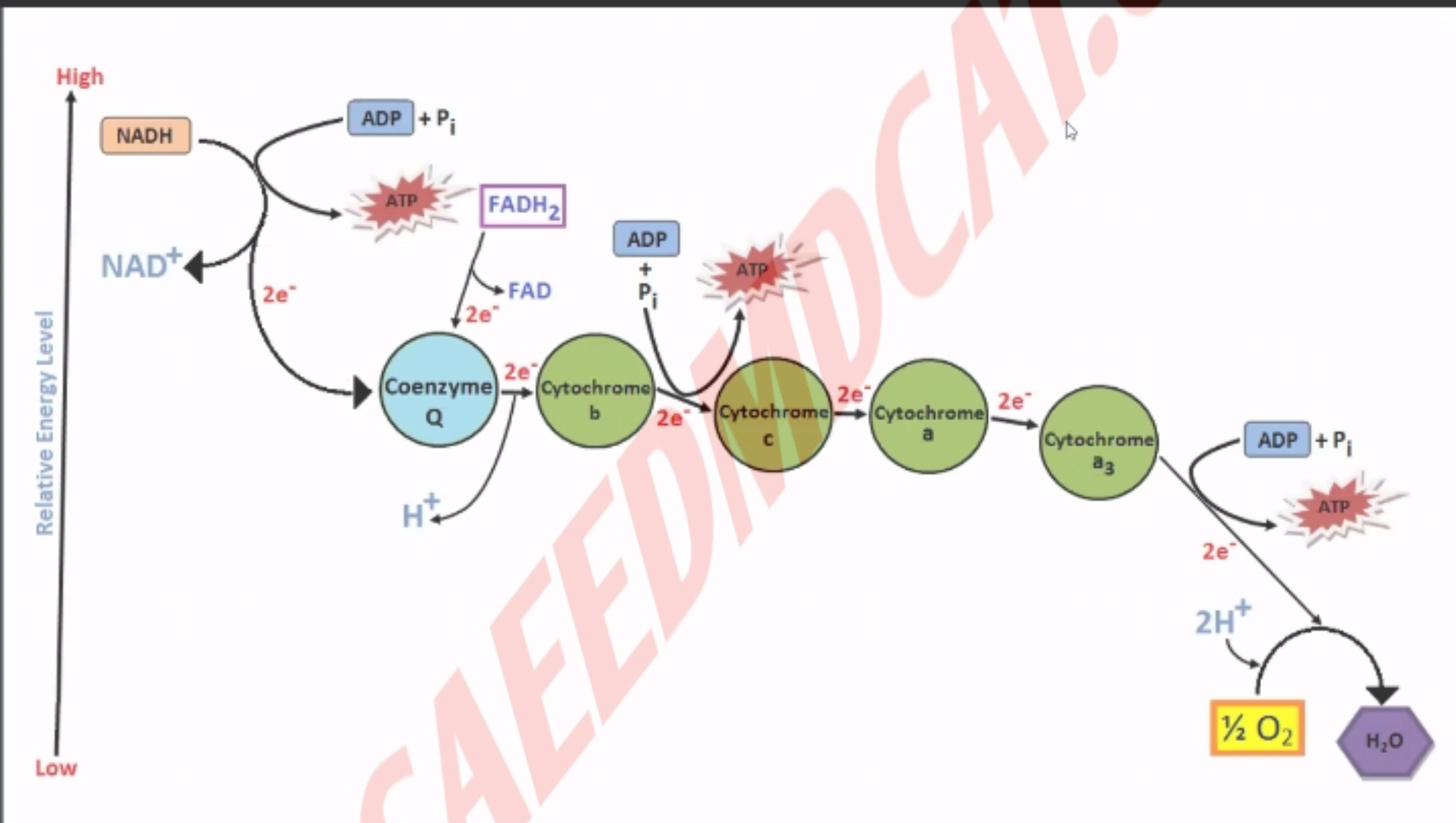
- (a) Three
- (b) Zero**
- (c) Thirty eight
- (d) Six



During respiration, terminal oxidation means:

10

- (a) Electron transport
- (b) Synthesis of ATP
- (c) Formation of water**
- (d) Dehydrogenation of reaction



In ETC, cytochromes are arranged in series of:

11

(a) Cytochrome a \rightarrow Cytochrome a₃ \rightarrow Cytochrome b \rightarrow Cytochrome c

(b) Cytochrome b \rightarrow Cytochrome a₃ \rightarrow Cytochrome a \rightarrow Cytochrome c

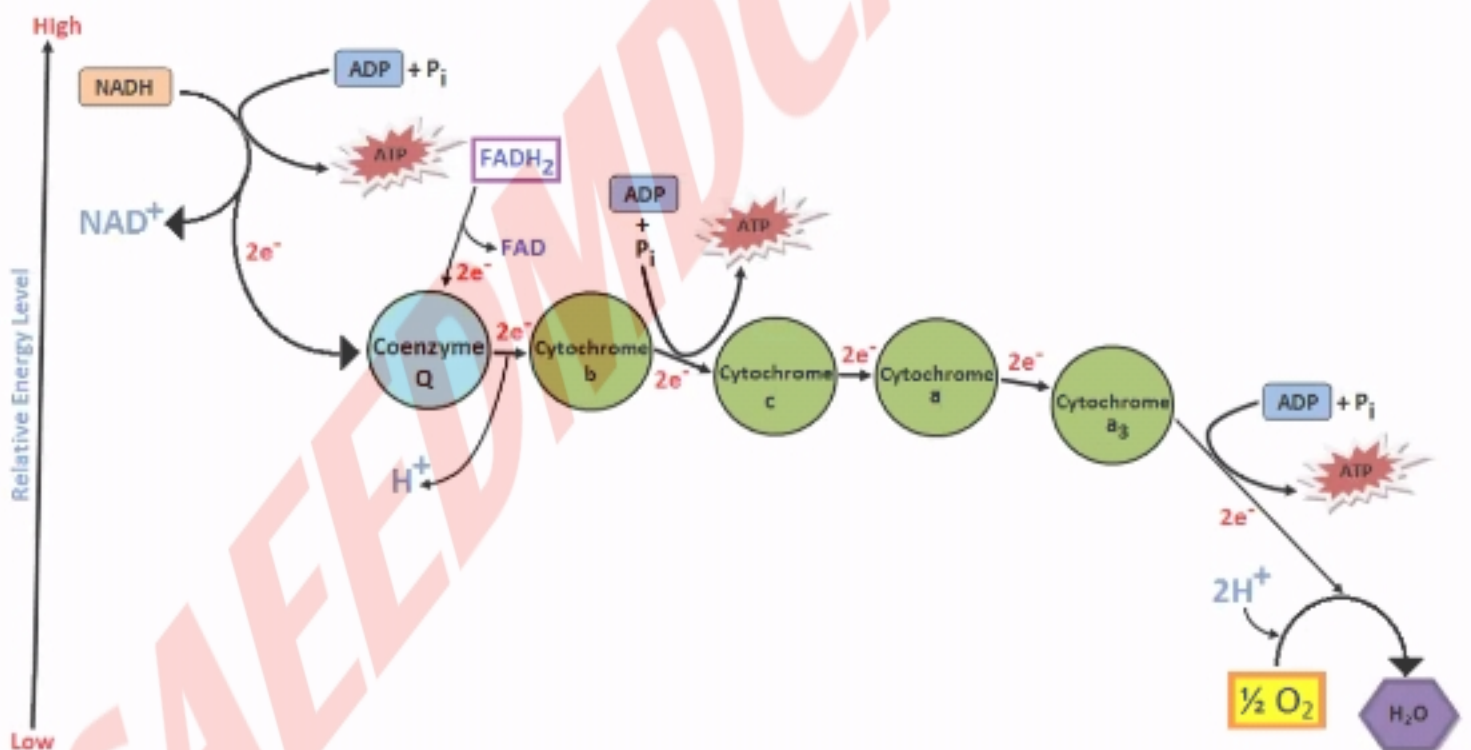
(c) Cytochrome b \rightarrow Cytochrome c \rightarrow Cytochrome a \rightarrow Cytochrome a₃

(d) Cytochrome b \rightarrow Cytochrome a₃ \rightarrow Cytochrome a \rightarrow Cytochrome c

In oxidative phosphorylation, one molecule of reduced FAD produces, how many ATP?

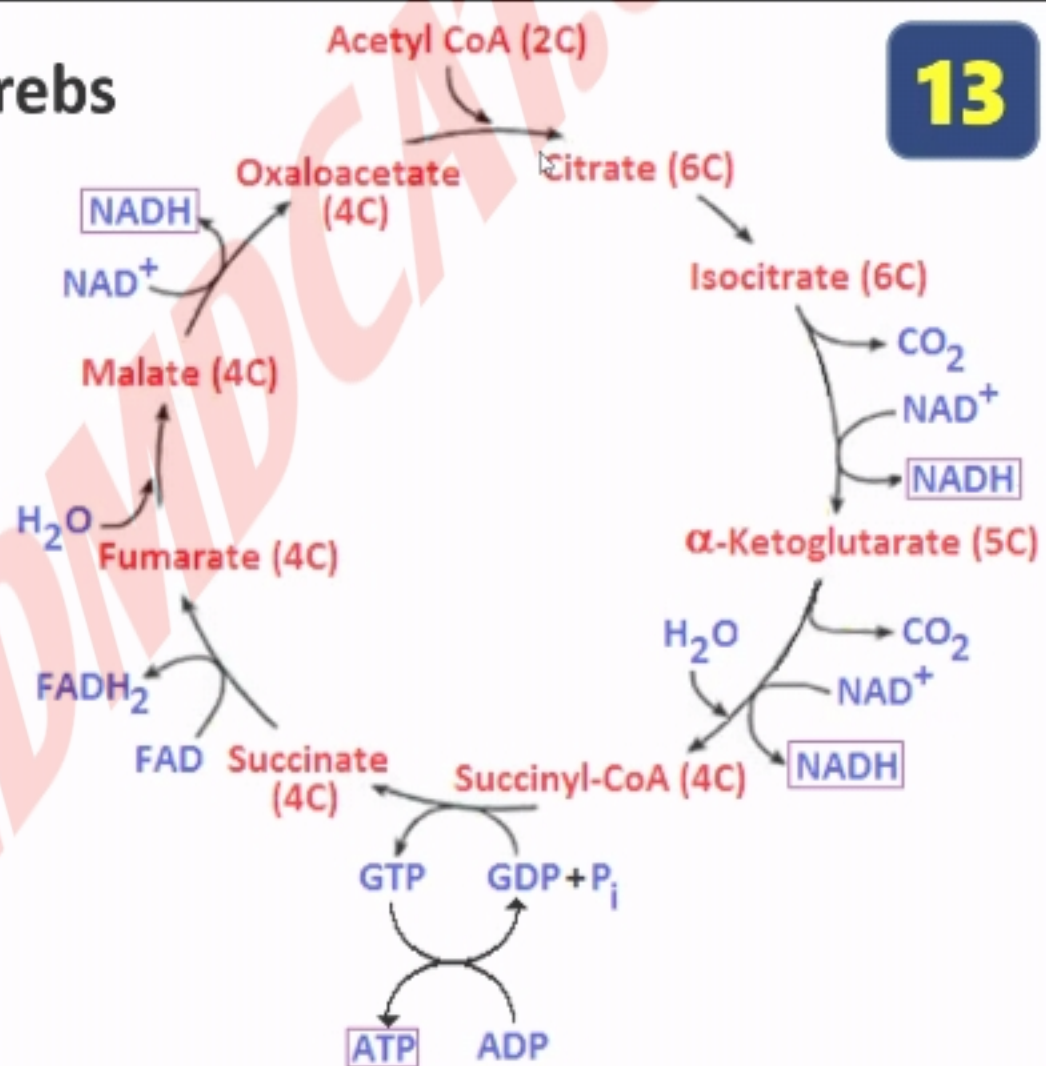
12

- (a) Zero
- (b) Two**
- (c) Three
- (d) Four



End product of citric acid/Krebs cycle is:

- (a) Citric acid
- (b) Lactic acid
- (c) Pyruvic acid
- (d) CO_2**



13

Fructose-6-phosphate is changed to fructose-1,6-bisphosphate by:

14

(a) Phosphoglycerate

(b) Phosphatase

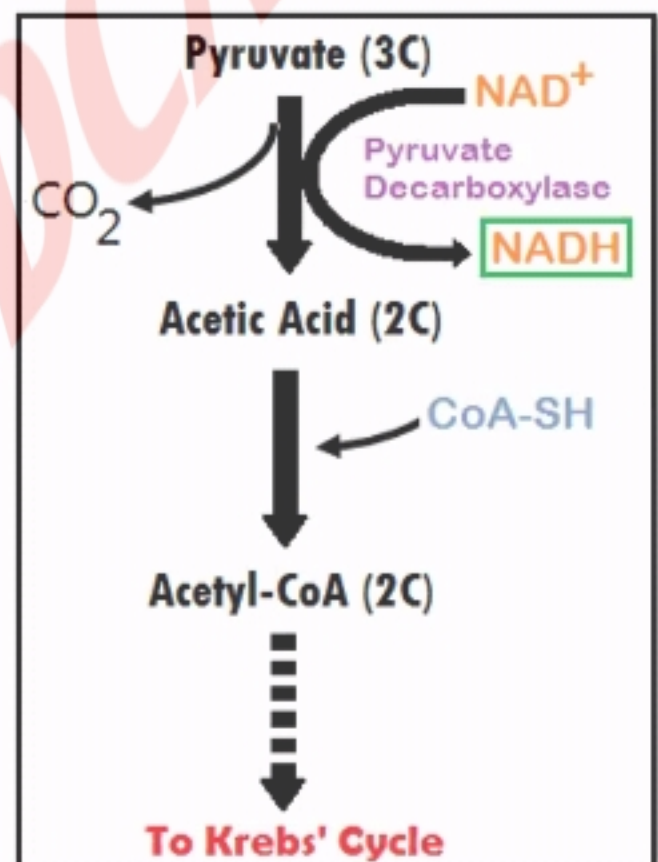
(c) Phosphofructokinase

(d) Enolase

How many ATP will be produced during the production of one molecule of acetyl-CoA from one molecule of pyruvic acid?

15

- (a) 3 ATP
(b) 5 ATP
(c) 8 ATP
(d) 38 ATP



Largest amount of phosphate bond energy is produced in the process of respiration during:

16

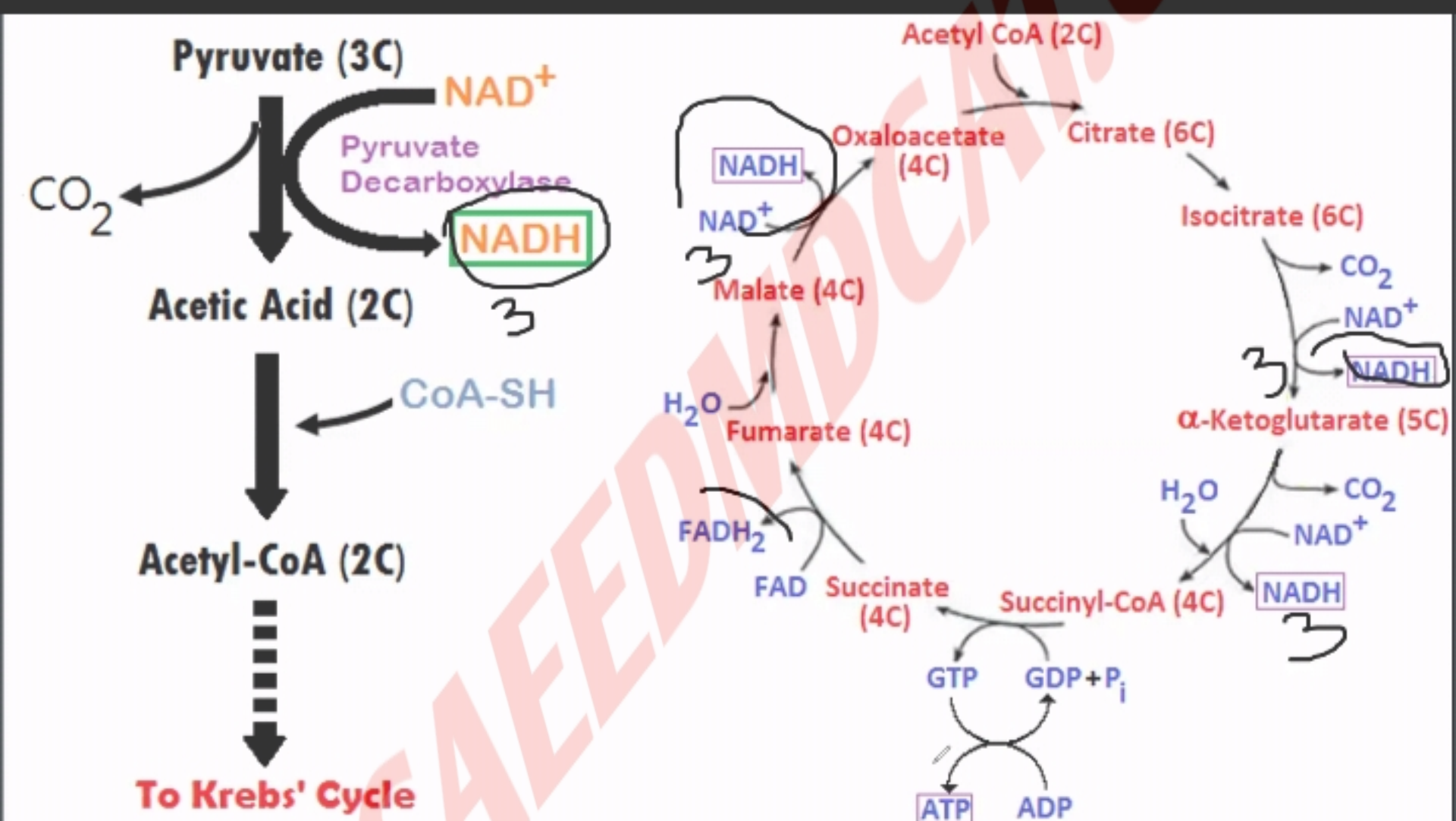
- (a) Glycolysis
- (b) Krebs cycle
- (c) Anaerobic respiration
- (d) None of the above

3NADH	3X3	9
1FADH ₂	1X2	2
1GTP	1	1
		12 ATP

Number of ATP molecules which can be built on complete oxidation of pyruvic acid is:

17

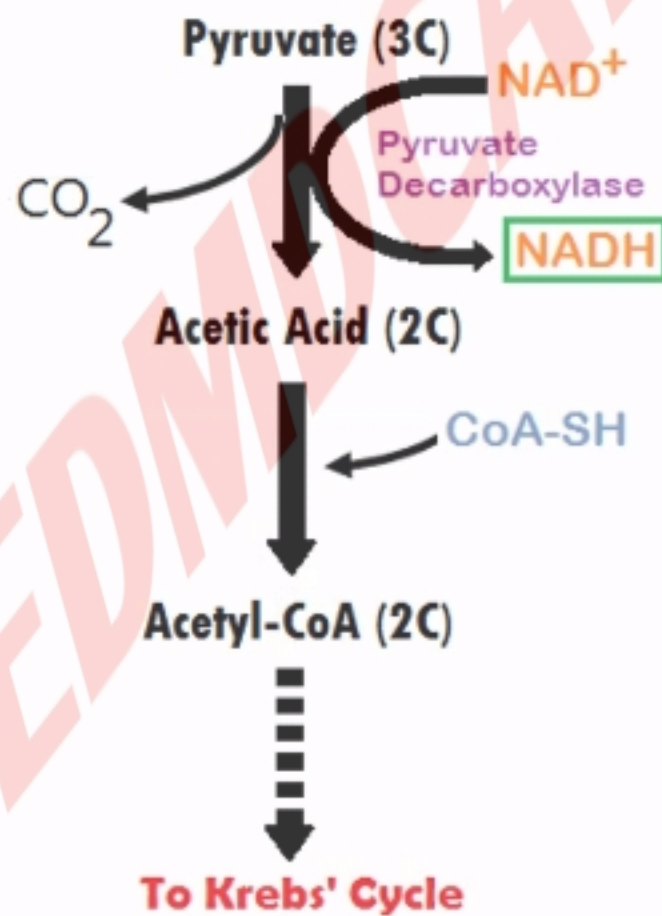
- (a) 6
- (b) 2
- (c) 15**
- (d) 30



Number of carbon atoms available in acetyl-CoA is:

- (a) 6
- (b) 4
- (c) 3
- (d) 2

18



The energy yield as a result of total oxidation of one molecule of glucose during cellular respiration is sufficient to convert:

19

- (a) 30 molecules of ADP to 30 molecules of ATP
- (b) 32 molecules of ADP to 32 molecules of ATP
- (c) 36 molecules of ADP to 36 molecules of ATP**
- (d) 38 molecules of ADP to 38 molecules of ATP

As compared to anaerobic respiration the energy gained during aerobic respiration is _____ more:

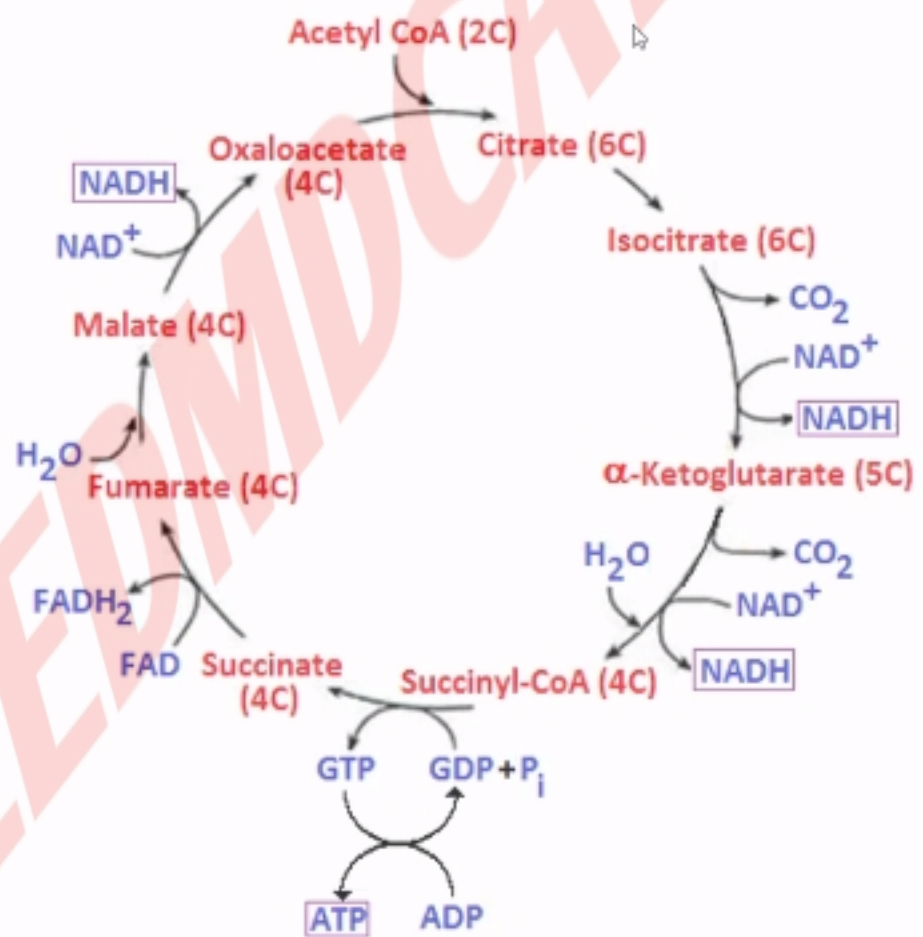
20

- (a) 6 times
- (b) 12 times
- (c) 18 times**
- (d) 36 times

 $72 : 36$ $1 : 18$

Oxidation of pyruvate to CO_2 and H_2O occurs through:

- (a) Citric acid cycle
- (b) Tricarboxylic cycle
- (c) Krebs cycle
- (d) All the above**

21

The terminal cytochrome in respiratory chain is:

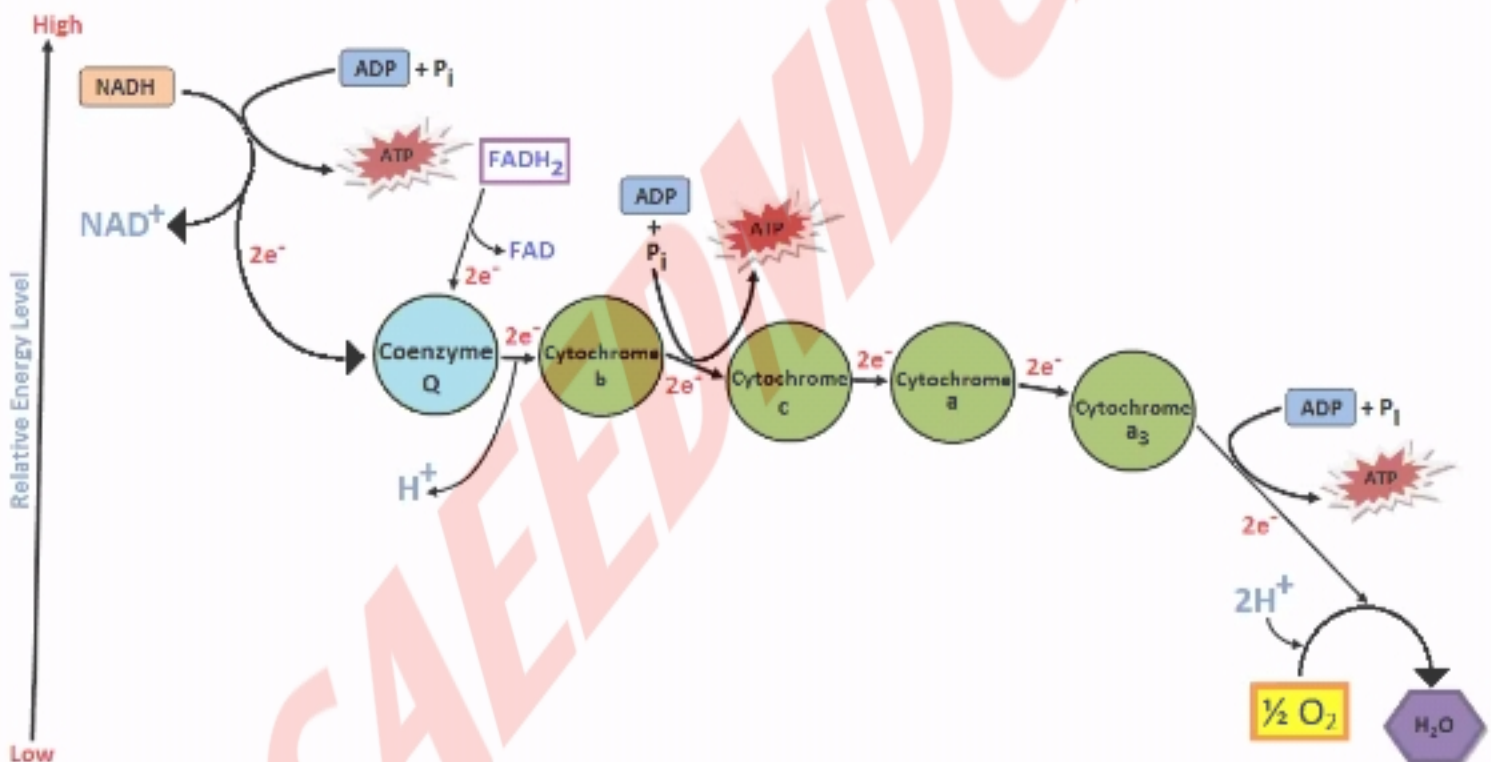
(a) Cytochrome b

(b) Cytochrome a_3

(c) Cytochrome a

(d) Cytochrome c

22



The net gain of energy from one gram mole of glucose during aerobic respiration is:

23

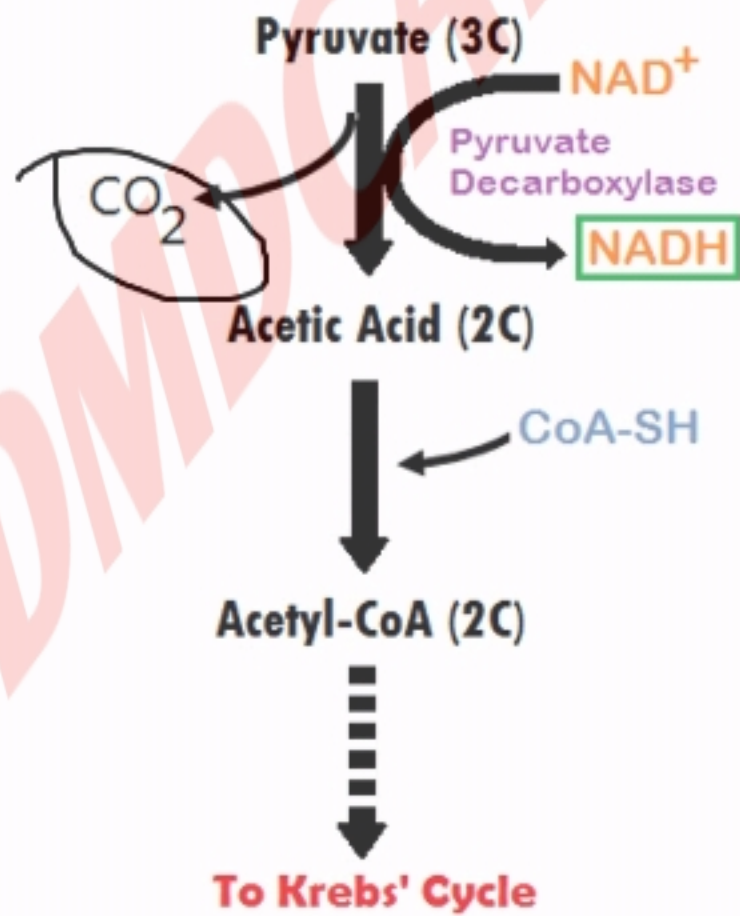
- (a) 2 ATP
- (b) 4 ATP
- (c) 36 ATP**
- (d) 38 ATP

1 mole of glucose weighs 180g.

The first decarboxylation of aerobic respiration occurs during:

24

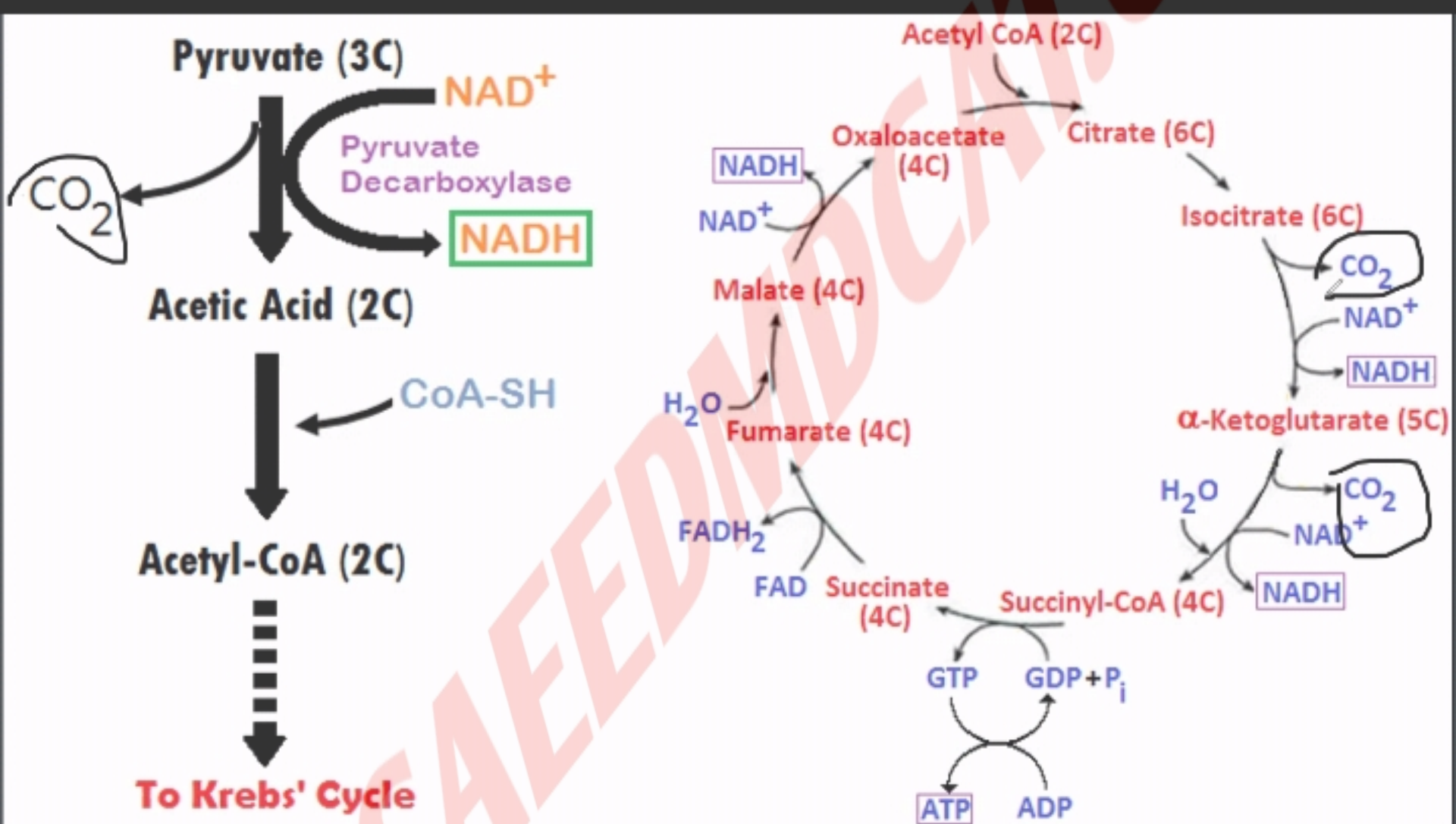
- (a) Glycolysis
- (b) Pyruvic acid oxidation**
- (c) Krebs cycle
- (d) Respiratory chain



Total number of decarboxylation during aerobic respiration of one glucose:

25

- (a) 2
- (b) 4
- (c) 6**
- (d) 8



Water molecules released during pyruvic acid oxidations is:

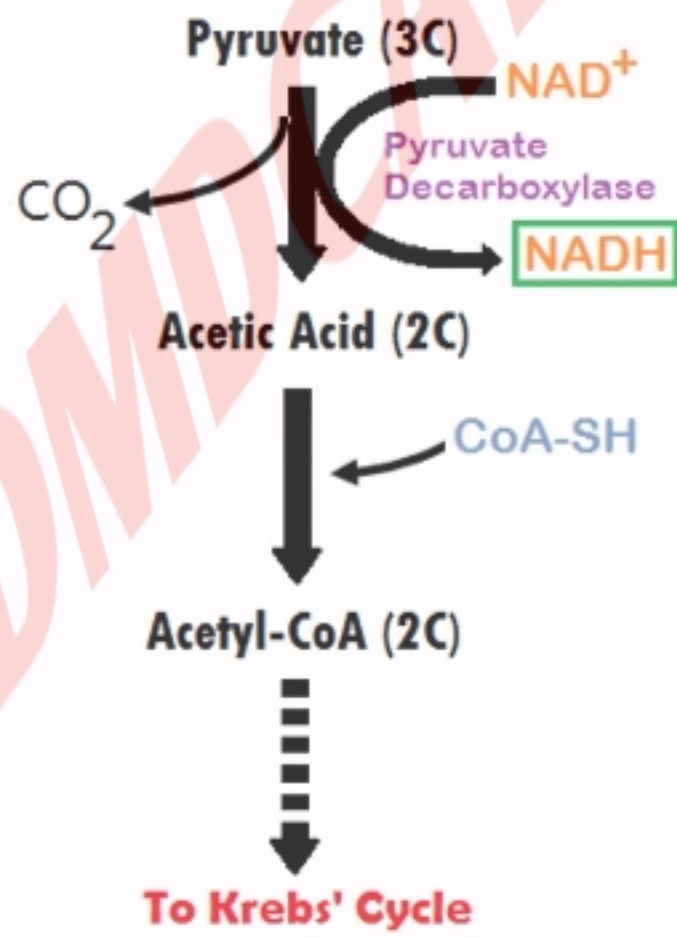
26

(a) 0

(b) 1

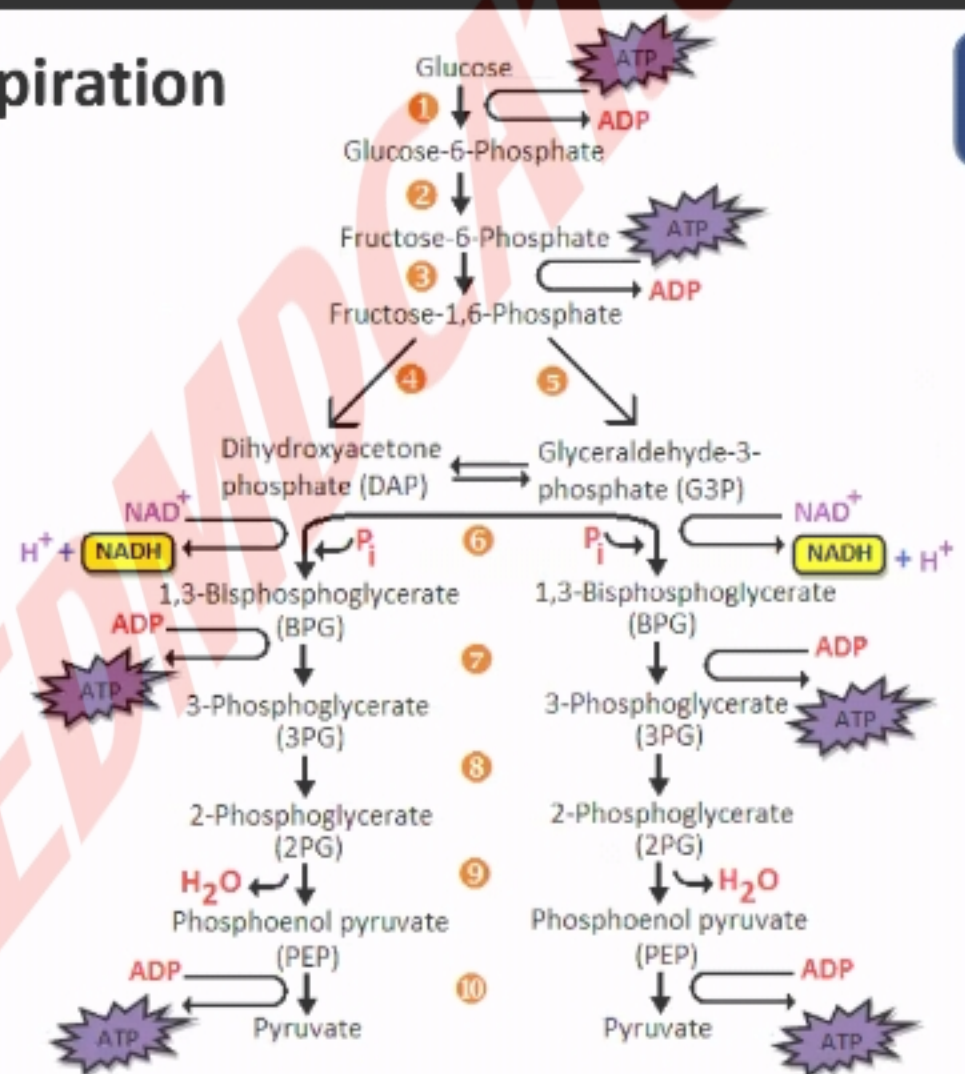
(c) 2

(d) 4



First NADH of aerobic respiration is produced during:

- (a) Glycolysis
- (b) Pyruvic acid oxidation
- (c) Krebs cycle
- (d) Respiratory chain



Which of the following enzyme catalyzes the first step of glycolysis?

28

(a) Hexokinase

(b) Pyruvate kinase

(c) Isomerase

(d) Phosphofructokinase

The general term used for the anaerobic degradation of glucose to obtain energy is

29

- (a) Anabolism
- (b) Oxidation
- (c) Fermentation**
- (d) Metabolism

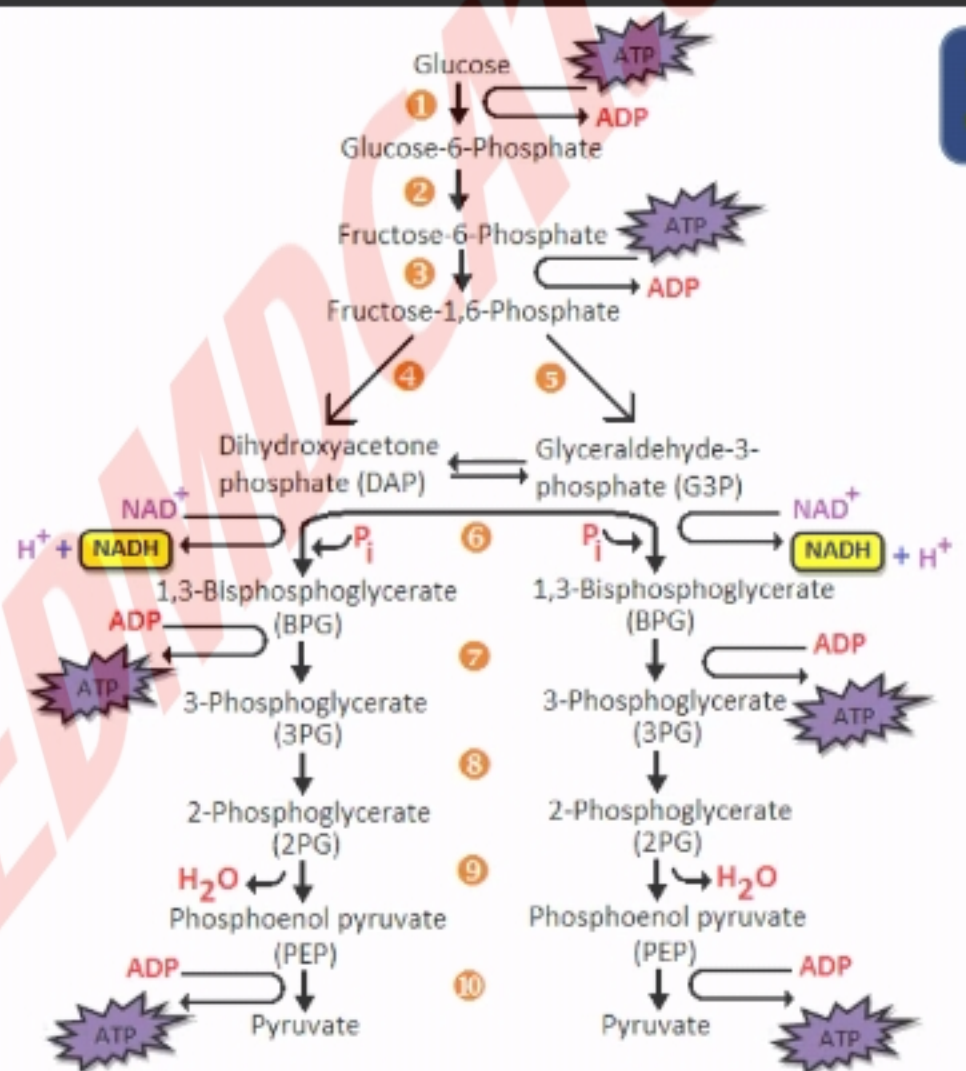
Cleavage of fructose-1,6-bisphosphate yields:

(a) Two aldoses

(b) Two ketoses

(c) An aldose & a ketose

(d) Only a ketose



30

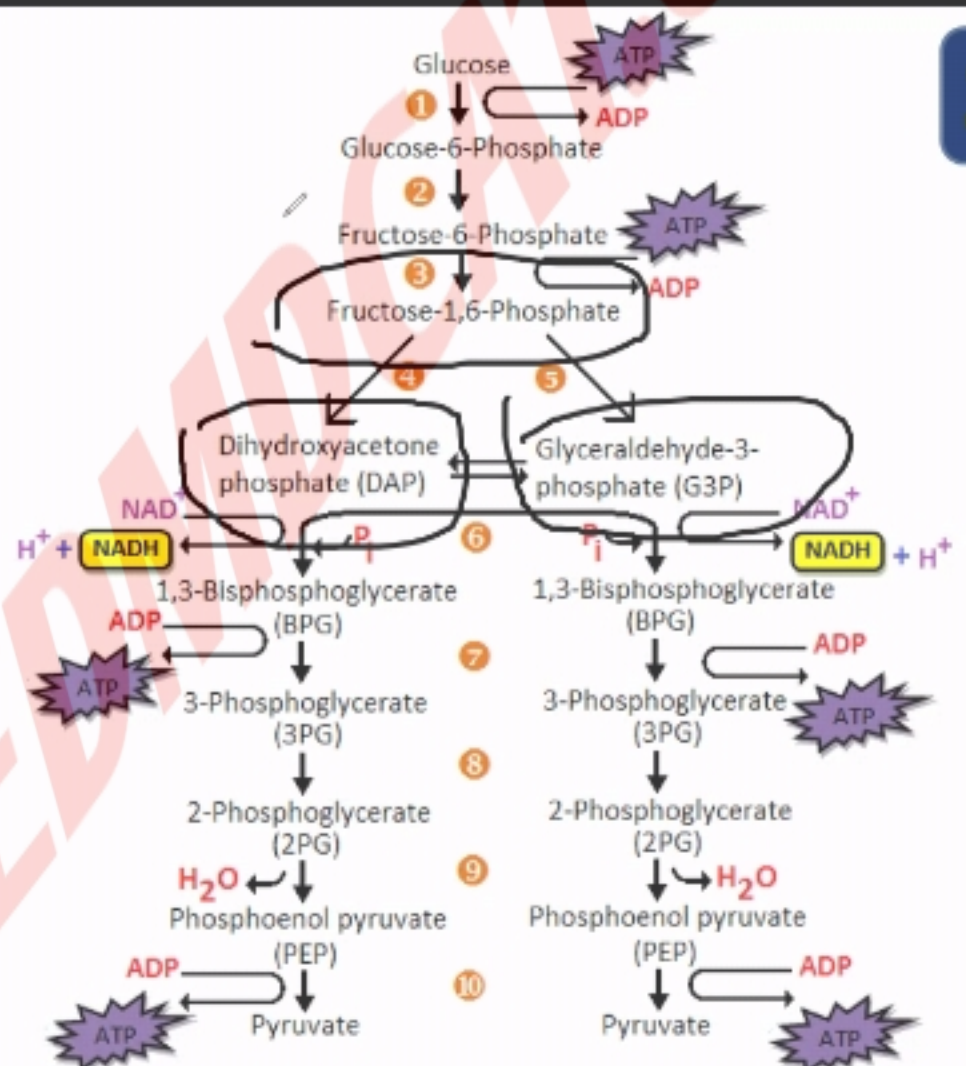
Cleavage of fructose-1,6-bisphosphate yields:

(a) Two aldoses

(b) Two ketoses

(c) An aldose & a ketose

(d) Only a ketose



Dihydroxyacetone phosphate is rapidly and reversibly converted to

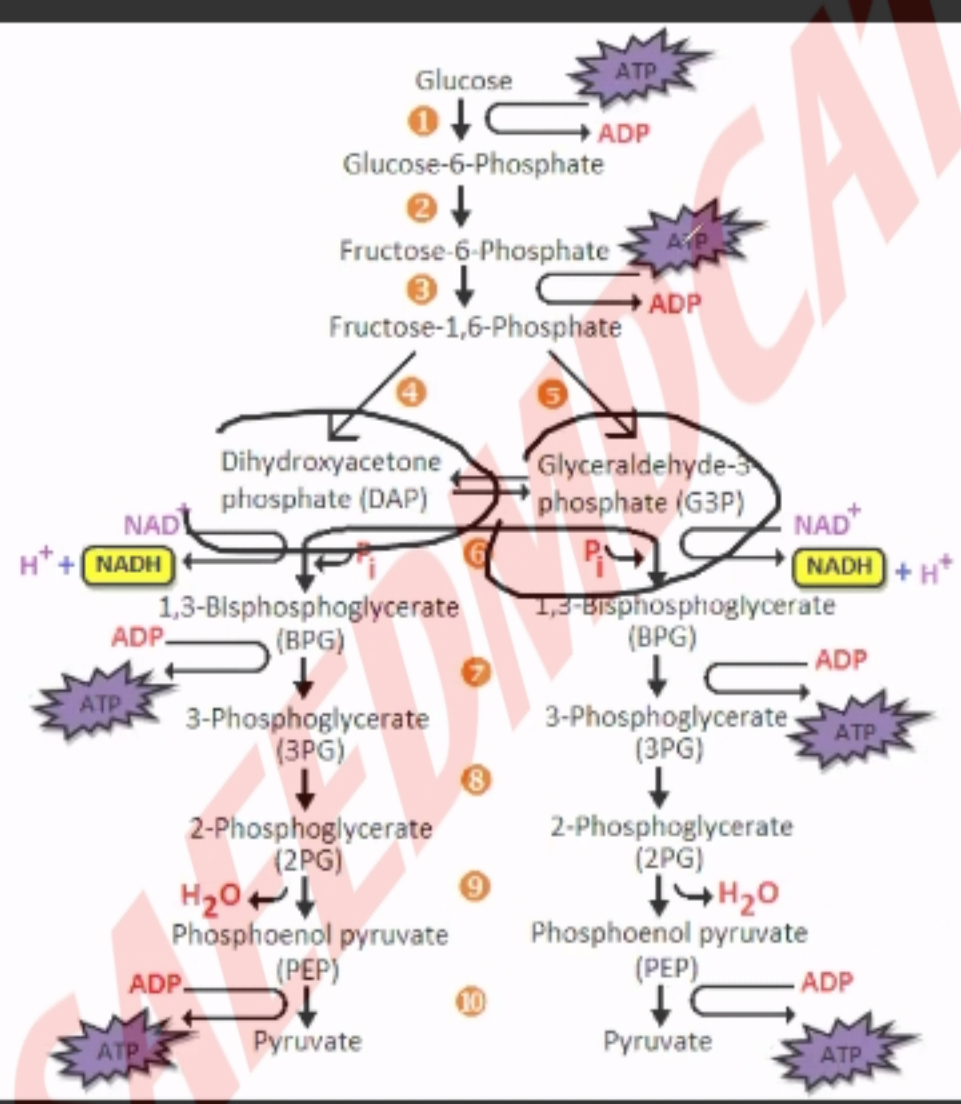
31

(a) Glyceraldehyde 3-phosphate

(b) 1,3-bis-phosphoglycerate

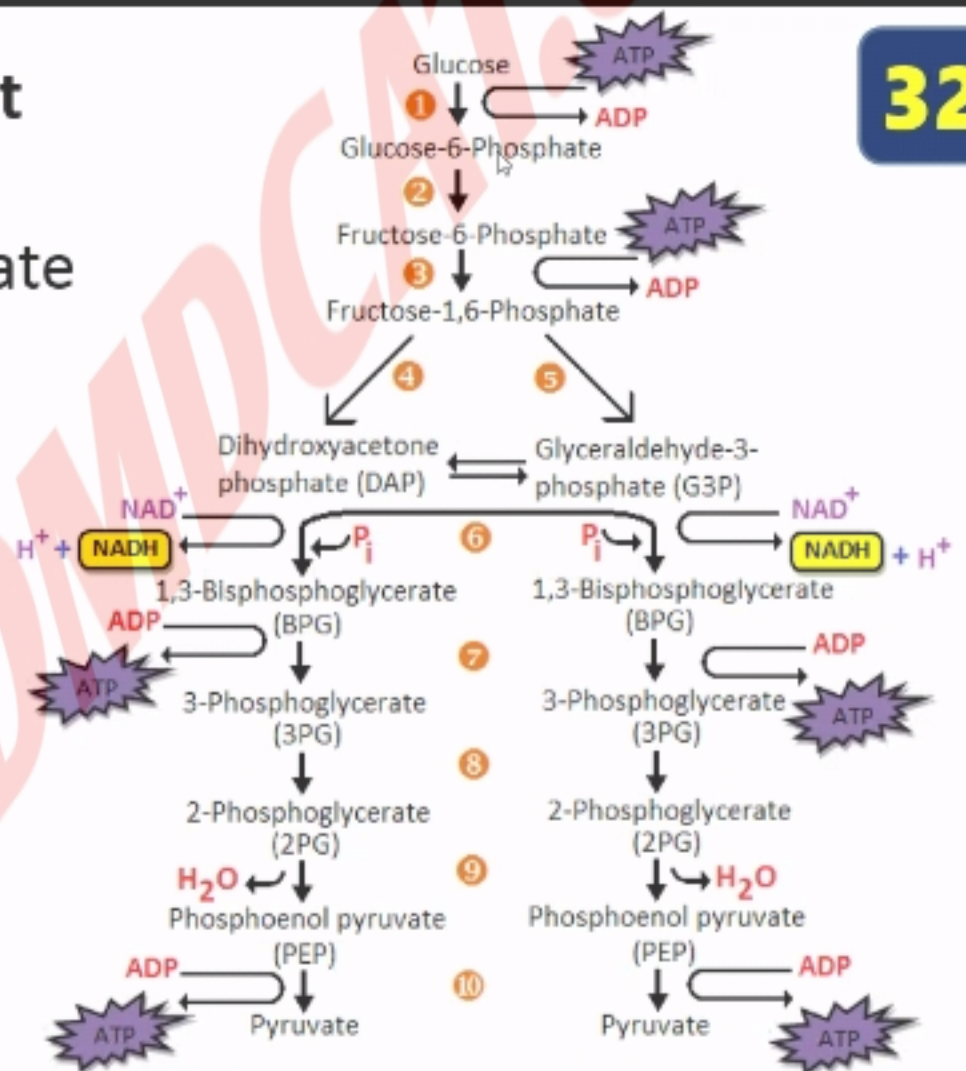
(c) Fructose-1,6-bisphosphate

(d) Fructose-6-phosphate



The substrate used in the last step of glycolysis is

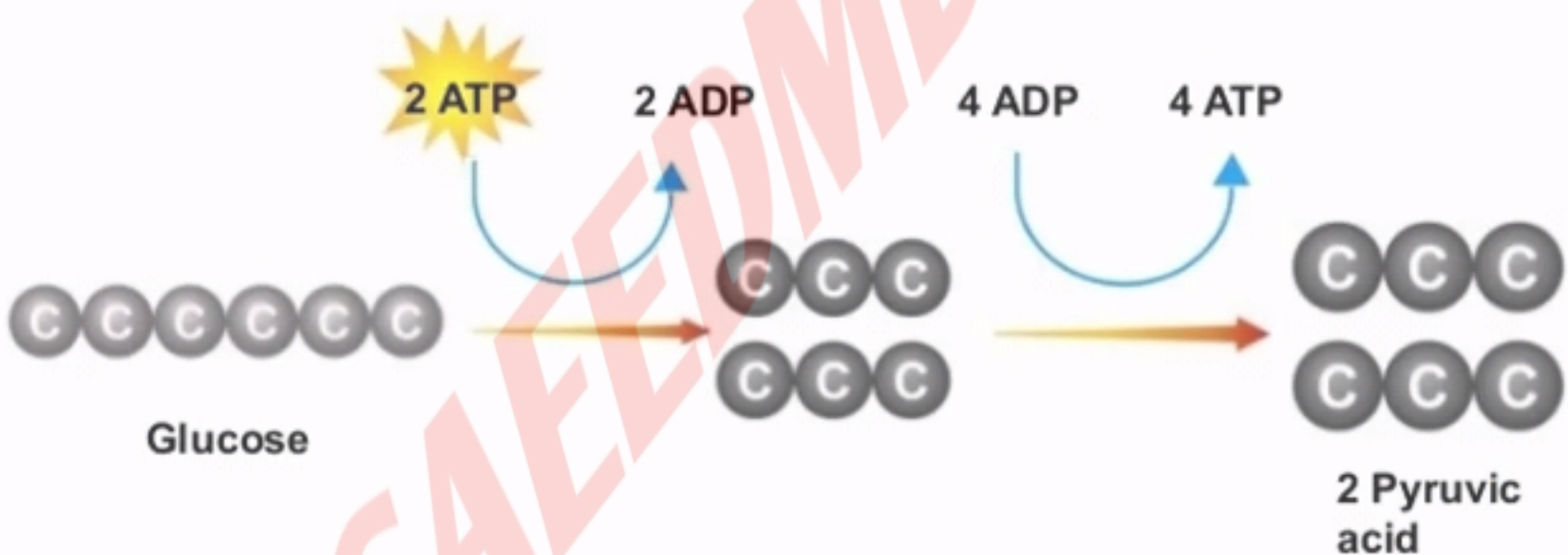
- (a) Glyceraldehyde 3-phosphate
- (b) Pyruvate
- (c) Phosphoenol pyruvate**
- (d) 1,3-bisphosphoglycerate



Glycolysis converts:

- (a) Glucose into pyruvate
- (b) Glucose into phosphoenolpyruvate
- (c) Fructose into pyruvate
- (d) Fructose into phosphoenolpyruvate

33

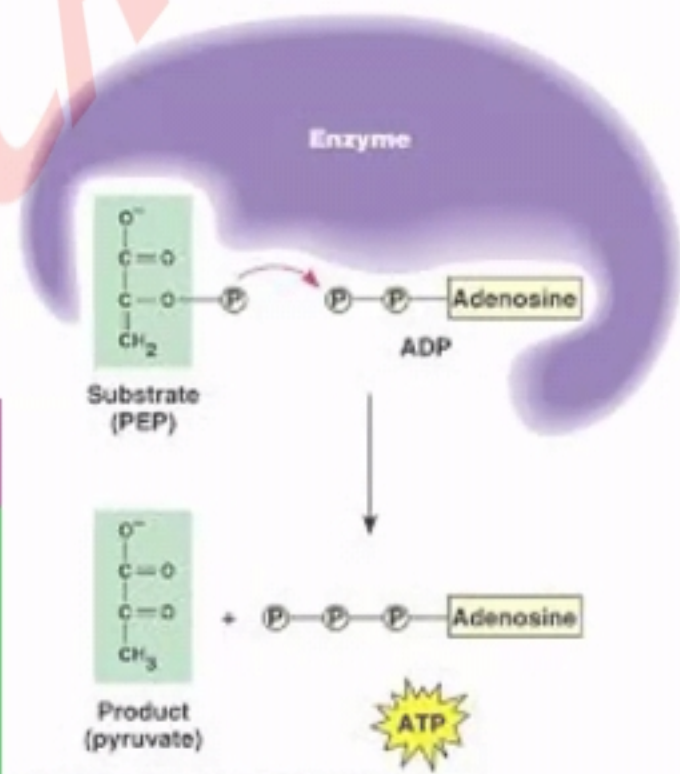


The product formed in the first substrate level phosphorylation in glycolysis is:

- (a) Pyruvate
- (b) 3-phosphoglycerate**
- (c) 1,3-bisphosphoglycerate
- (d) 2-phosphoglycerate

LEARNING OUTCOME

In substrate-level phosphorylation, a phosphoryl group is transferred from an energy-rich donor (e.g., PEP) to ADP to yield a molecule of ATP.

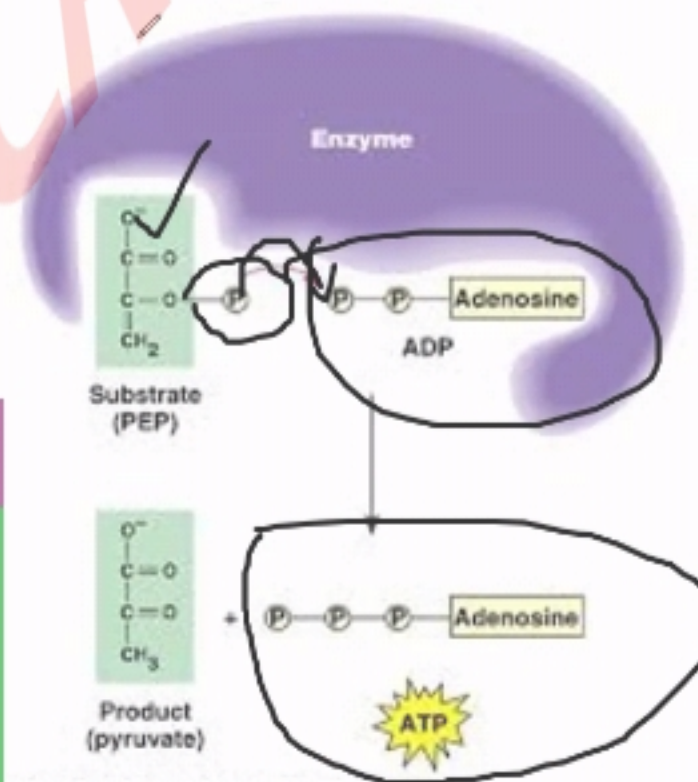


The product formed in the first substrate level phosphorylation in glycolysis is:

- (a) Pyruvate
- (b) 3-phosphoglycerate**
- (c) 1,3-bisphosphoglycerate
- (d) 2-phosphoglycerate

LEARNING OUTCOME

In substrate-level phosphorylation, a phosphoryl group is transferred from an energy-rich donor (e.g., PEP) to ADP to yield a molecule of ATP.



The enzymes that take part in Krebs cycle are part of:

35

- (a) Mitochondria
- (b) Inner mitochondrial membrane
- (c) Mitochondrial matrix**
- (d) Cytoplasm

In glycolysis, phosphofructokinase (PFK) is inhibited by:

36

(a) NADH

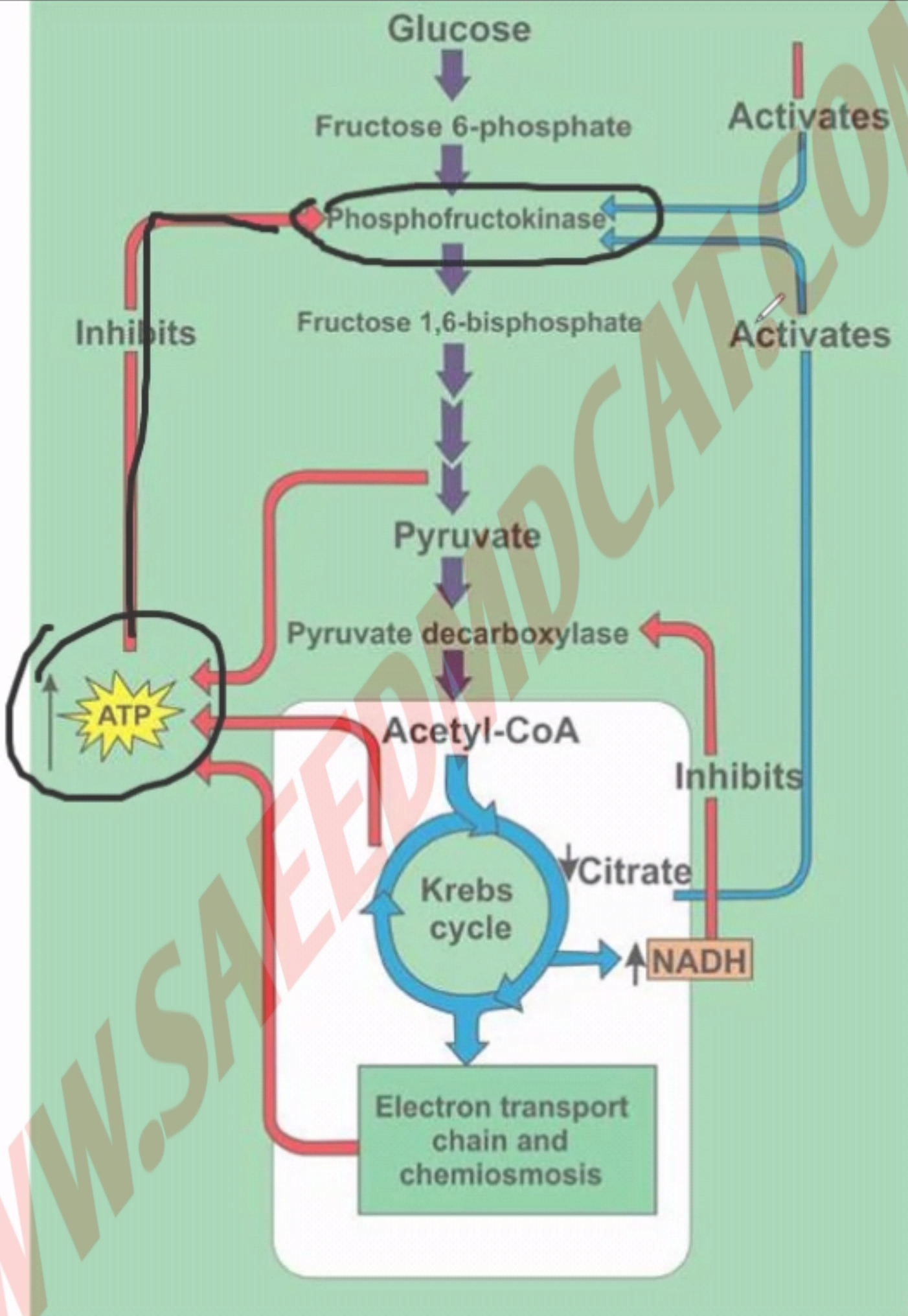
(b) ATP

(c) Fructose-1,6-bisphosphate

(d) Fructose-6-phosphate

LEARNING OUTCOME

PFK is inhibited by high levels of ATP, low pH levels and high levels of citrate (a byproduct of cell metabolism).





Zoom

Leave

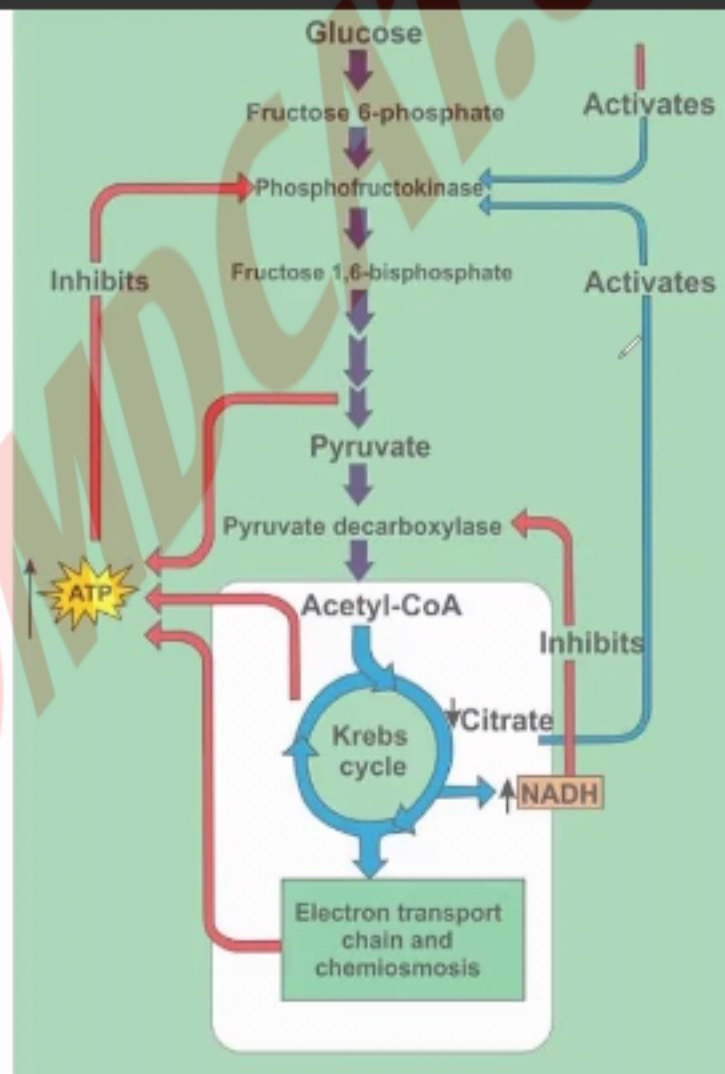
The pyruvate decarboxylase is inhibited by:

(a) **NADH**

(b) CO_2

(c) ATP

(d) Acetyl-CoA



37

Unmute

Start Video

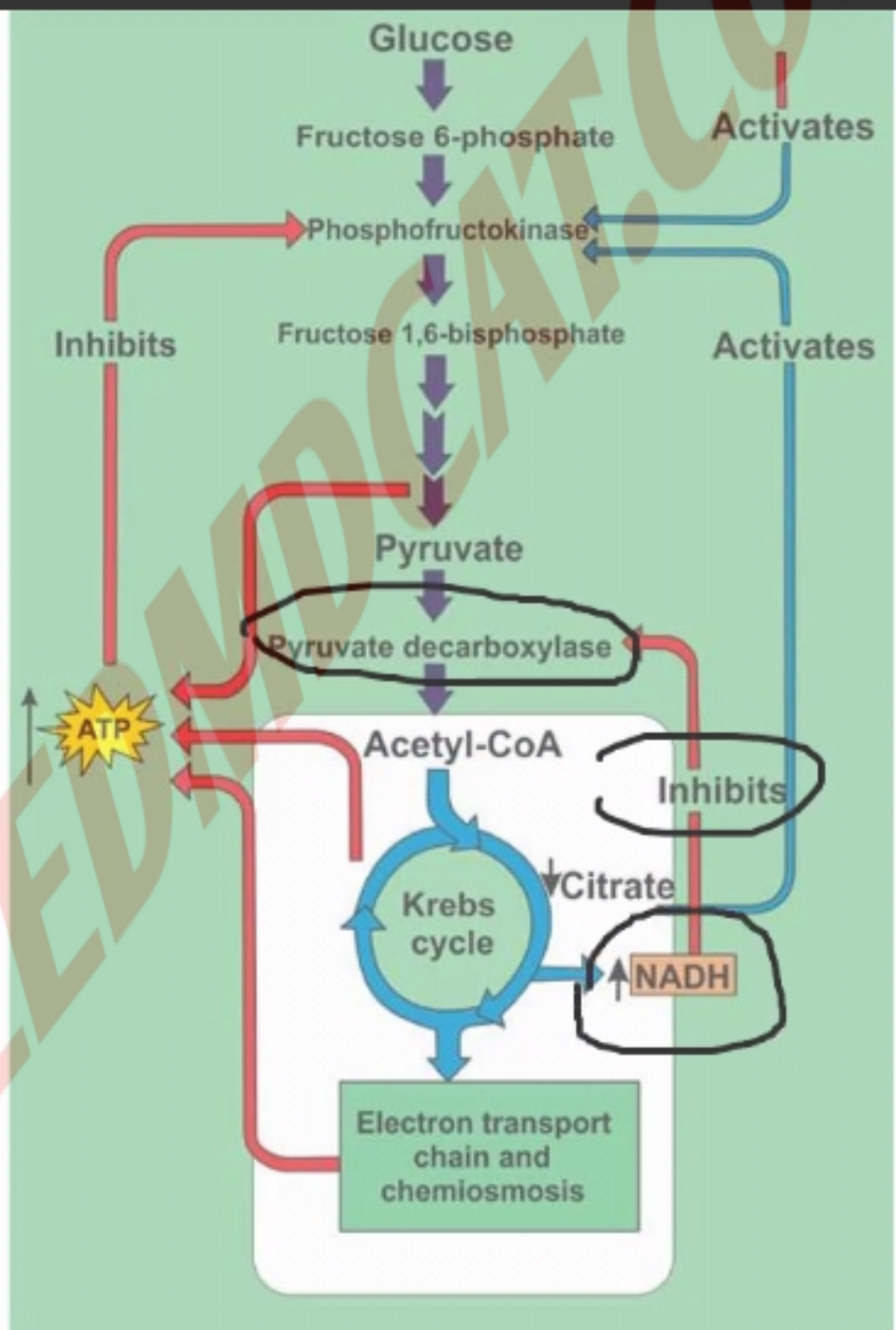
Share

Participants 32

More

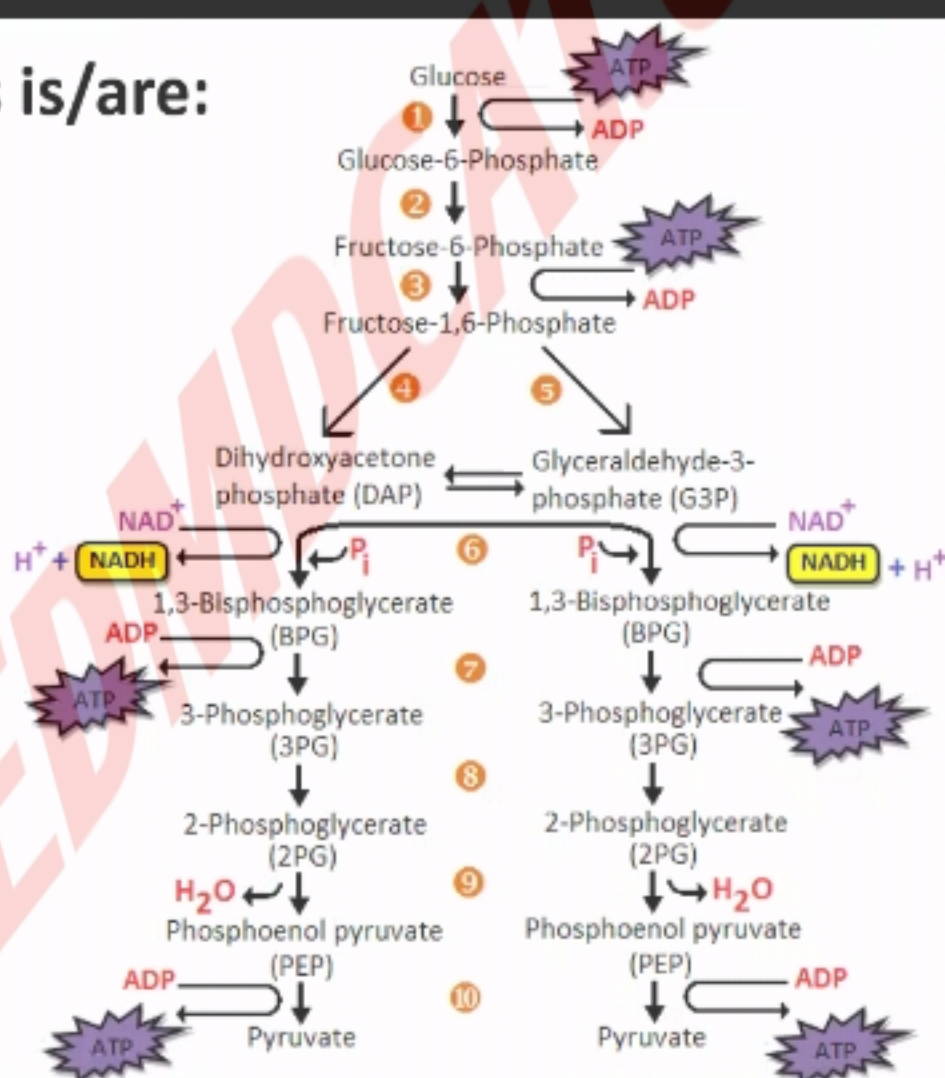
te decarboxylase
by:

oA



38

- (a) Pyruvate
(b) NADH
(c) ATP
(d) All the above

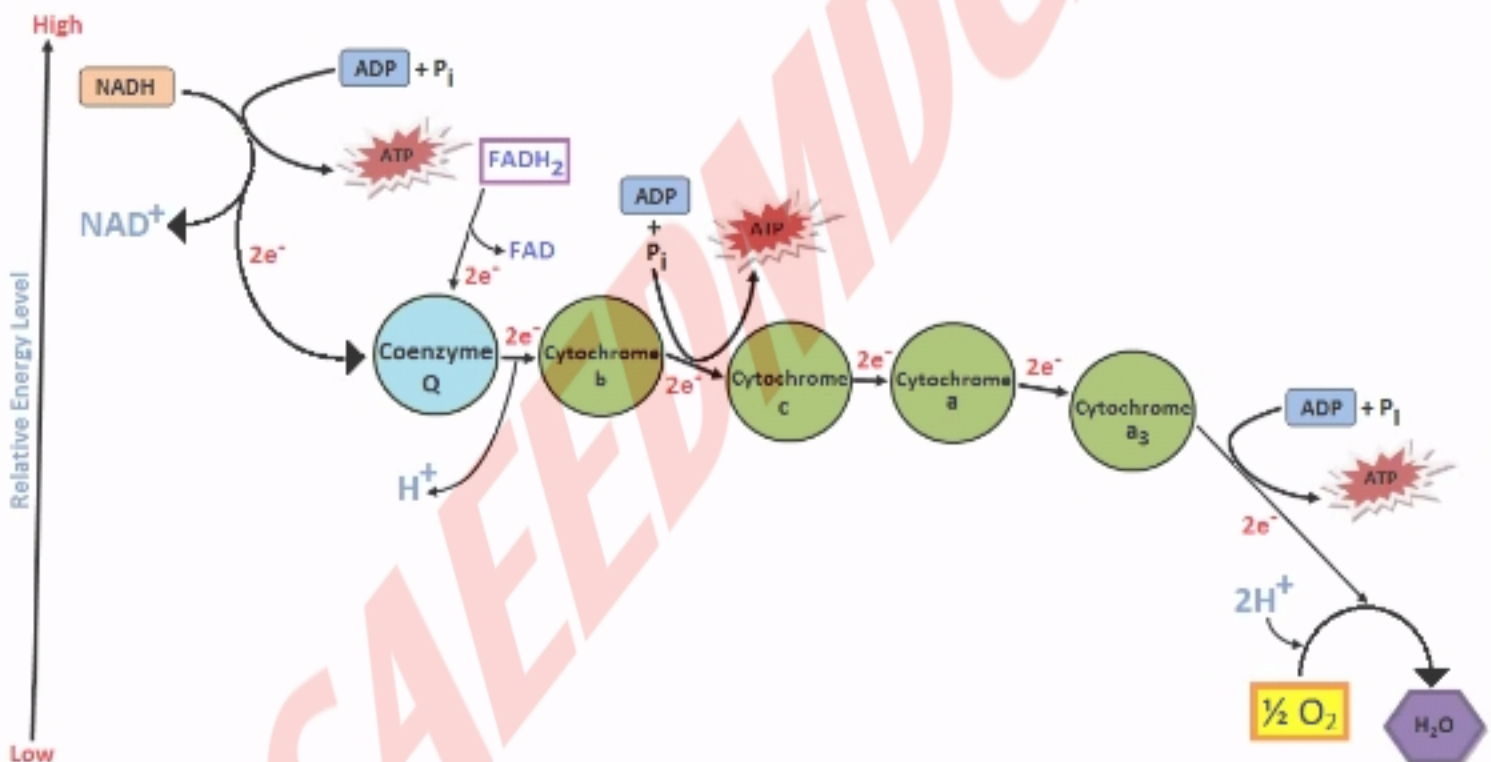


During respiratory chain, NADH is oxidized by:

(a) Cytochrome b (b) Cytochrome a

(c) Molecular O_2 (d) **Coenzyme Q**

39



Which of the following is wrong with respect to the Krebs cycle?

40

- (a) Acetyl-CoA combines with oxaloacetate to form citrate
- (b) NAD^+ is reduced to form NADH
- (c) FADH_2 accepts two electrons in order to form FAD**
- (d) All of the above are correct